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MILITARY PERSONNEL

DOD and the Services Need to Take Additional Steps to Improve Mobilization Data for the Reserve Components

GAO

Accountability * Integrity * Reliability

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MILITARY PERSONNEL

DOD and the Services Need to Take Additional Steps to Improve Mobilization Data for the Reserve Components

Why GAO Did This Study

GAO has previously reported on the Department of Defense's (DOD) ability to track reservists deployed to the theater of operations and made recommendations. Reliable mobilization and deployment data are critical for making decisions about reserve force availability and medical surveillance. Because of broad congressional interest, GAO initiated a review under the Comptroller General's authority to conduct evaluations on his own initiative to determine (1) what DOD data indicate are the number of reservists mobilized and deployed in support of the Global War on Terrorism (GWOT) and the selected demographic and deployment characteristics of those deployed and (2) whether DOD's reserve deployment and mobilization data and analyses are reliable. GAO analyzed data and data analyses from DOD's Contingency Tracking System (CTS) and interviewed agency officials.

What GAO Recommends

GAO is recommending that DOD standardize the use of key terms; provide required data, such as location; and document its internal procedures, processes, and assumptions for analyzing and verifying data analyses. DOD generally concurred except for the need for DMDC to document its assumptions. GAO believes that basic key assumptions should be documented.

www.gao.gov/cgi-bin/getrpt?GAO-06-1068.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Derek Stewart at (202) 512-5559 or stewartd@gao.gov.

What GAO Found

GAO's analysis of DOD data indicates that more than 531,000 reservists have been mobilized in support of GWOT as of June 30, 2006, and more than 378,000 reservists, or 71 percent of the number mobilized, have been deployed. The number of reservists deployed increased through fiscal year 2003 and remained stable through fiscal year 2005. The majority of reservists have been deployed once. GAO's analysis further indicates that of the more than 378,000 reservists who have deployed in support of GWOT, 81 percent have spent a year or less deployed and 17 percent of reservists have spent more than 1 year but less than 2 years deployed. Of those who deployed, almost 98 percent were U.S. citizens. Since GWOT began, about 78 percent of reservists who were deployed were White, about 14 percent were Black or African American, and almost 90 percent identified themselves as non-Hispanic and 8 percent as Hispanic. Of those who were deployed, 89 percent were male and 11 percent were female. There were three variables—volunteer status, location deployed, and unit deployed—required by DOD policy for which the Defense Manpower Data Center (DMDC) could not provide data because the data either did not exist or were not reliable enough for the purposes of GAO's report.

GAO found the deployment and mobilization data used to be reliable for providing descriptive information. However, the mobilization data, some deployment data fields, and DMDC's processes for data analyses need improvement. DMDC and the services have recently taken steps to improve the reliability of mobilization data; however, additional steps are needed to make mobilization data more reliable. DMDC and the services have undertaken a large-scale, challenging effort to replace all previous service-provided mobilization data in DMDC's CTS database with new data from the services, referred to as "rebaselining." To date, the Air Force has certified that it has rebaselined its data and Navy officials say they have validated their personnel files and established a common baseline of data with DMDC. The Army, which has mobilized the largest number of reservists, has not completed its rebaselining effort and has not set a deadline for completion. Also, DOD has not fully addressed other data issues that could affect the accuracy and completeness of the data, such as standardizing the use of key terms and ensuring that the services address data issues identified by DMDC as well as provide data for all required data fields, such as location, to DMDC. Also, because the data analyses DMDC provided had numerous errors, GAO questions the effectiveness of its verification procedures and other supporting procedures, all of which DMDC has not documented. Until DOD addresses data issues and DMDC documents the internal control procedures it uses to analyze data and verify its analyses of the data, the information provided to decision makers within Congress and DOD may be unreliable and decision makers will not be in the best position to make informed decisions about reserve force availability and reservists' exposure to health hazards.

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September 20, 2006

Congressional Committees

Since President Bush signed an Executive Order establishing the Global War on Terrorism (GWOT)[1] on September 14, 2001, hundreds of thousands of National Guard and Reserve servicemembers[2] have been activated, mobilized, and deployed[3] in support of efforts in, among other places, Afghanistan and Iraq. As the Department of Defense (DOD) continues to rely on about 1.3 million reservists to carry out its military operations domestically and abroad, there continues to be congressional interest in the impact of GWOT on reserve employment, income change, medical and health status of reservists, and other issues.

For decades, DOD has been collecting and reporting information on active duty and reserve component servicemembers. However, it was not until October 2001, less than a month after the terrorist attacks, that DOD emphasized the need for the services to specifically report information about mobilized and deployed reservists who support contingencies.[4]

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[1] GWOT includes missions such as Operation Enduring Freedom with operations in and around Afghanistan and Operation Iraqi Freedom with operations in and around Iraq.

[2] National Guard and Reserve servicemembers include the collective forces of the Army National Guard and the Air National Guard, as well as the forces from the Army Reserve, the Navy Reserve, the Marine Corps Reserve, and the Air Force Reserve. They are known collectively as the reserve component. This report does not address the Coast Guard Reserve because it comes under the day-to-day control of the Department of Homeland Security rather than the Department of Defense (DOD). The Coast Guard does, however, assist DOD in meeting its commitments and DOD data indicate that 7,053 Coast Guard reservists were mobilized and 204 were deployed in support of GWOT through June 30, 2006.

[3] According to the *Department of Defense Dictionary of Military and Associated Terms*, a servicemember is activated when he or she is ordered to full-time duty in the active military of the United States. A servicemember is mobilized when he or she becomes part of the process of assembling and organizing personnel and equipment, activating or federalizing units and members of the National Guard and Reserves for active duty, and bringing the armed forces to a state of readiness for war or other national emergency. A servicemember is deployed when he or she becomes part of the process to relocate forces and materiel to desired operational areas. For the purposes of this report, the term mobilized will refer to reservists who have been activated, mobilized, or both in support of GWOT.

[4] Department of Defense, the Under Secretary of Defense, Personnel and Readiness, memorandum, "Reporting of Personnel Data in Support of the National Emergency by Reason of Certain Terrorist Attacks," October 4, 2001.

GAO-06-1068 DOD's Deployment Data

While DOD has been collecting this information, several reports have emphasized information about reservists who have been mobilized, not deployed. Further, some of our prior reports[5] have raised concerns about DOD's ability to effectively track reservists who are being deployed to the theater of operation. Information about reservists' deployments is needed to assess reserve force availability and to link reservists' locations with exposure to medical hazards. Our past work has also confirmed that it is critical that DOD collect, maintain, and report reliable information on deployed reservists. In our experience, the data that DOD has reported in the past about the number of reservists who have been mobilized and deployed have not been consistent because, for example, the data used came from different or varied sources and the analyses performed were based on different analytical assumptions.

This report, initiated under the Comptroller General's authority to conduct evaluations on his own initiative, addressed the following issues: (1) what DOD data indicate are the number of reservists mobilized and deployed in support of GWOT and the selected demographic and deployment characteristics of those deployed and (2) whether DOD's reserve deployment and mobilization data and analyses are reliable.

For this report, we used data provided by the Defense Manpower Data Center (DMDC), which is DOD's repository for departmentwide data. We outline the major assumptions we used to analyze the data in the scope and methodology section of this report (see app. I). Specifically, to address our objectives, we obtained and analyzed data from DMDC's Contingency Tracking System (CTS). CTS is DMDC's system that brings together data about GWOT from many sources and, according to a senior DMDC official, is the only source of these data within DOD. The Joint Staff's Manpower and Personnel office is working toward using only CTS data to determine reserve force availability for future operations. We also performed reliability assessments on the data after obtaining an understanding of the data file structure and the sources of the data.

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[5] See, for example, GAO, *Defense Health Care: Medical Surveillance Improved Since Gulf War, but Mixed Results in Bosnia*, GAO/NSIAD-97-136 (Washington, D.C.: May 13, 1997); *Military Personnel: DOD Actions Needed to Improve the Efficiency of Mobilizations for Reserve Forces*, GAO-03-921 (Washington, D.C.: Aug. 21, 2003); *Military Personnel: DOD Needs to Address Long-term Reserve Force Availability and Related Mobilization and Demobilization Issues*, GAO-04-1031 (Washington, D.C.: Sept. 15, 2004); and *Defense Health Care: Improvements Needed in Occupational and Environmental Health Surveillance during Deployments to Address Immediate and Long-term Health Issues*, GAO-05-632 (Washington, D.C.: July 14, 2005).

Specifically, we (1) performed electronic testing of the data files for completeness (that is, missing data), out-of-range values, and dates outside of valid time frames; (2) assessed the relationships among data elements; and (3) worked with agency officials to identify data problems, such as which variables may be unreliable. We also analyzed the extent to which data provided by DMDC changed during this review as a result of DMDC's data cleaning effort, known as a rebaselining. Using applicable guidance,[6] we interviewed knowledgeable officials at DMDC about internal control procedures and other matters. In addition to the officials at DMDC, we also interviewed knowledgeable officials from the services, the Office of the Assistant Secretary of Defense for Reserve Affairs, and the Joint Chiefs of Staff Manpower and Personnel office. The data we report are sufficiently reliable for our purposes (that is, providing descriptive information) with one caveat. Since the Army is in the process of updating its mobilization data, we could not assess the reliability of the Army's mobilization data to the same extent as those of the other services. In comparing our analyses of the data with the analyses reported by DMDC, we determined that DMDC's analyses were not sufficiently reliable for this report. We performed our audit work from December 2005 through August 2006 in accordance with generally accepted government auditing standards. A more thorough description of our scope and methodology is provided in appendix I.

Results in Brief

Our analysis of DOD data indicates that more than 531,000 reservists have been mobilized in support of GWOT and more than 378,000 reservists, or almost 71 percent of the number mobilized, have been deployed in support of GWOT as of June 30, 2006. The Army National Guard has mobilized and deployed the greatest number of reservists—more than 230,000 have been mobilized and more than 163,000 have been deployed. The Navy Reserve had the fewest number of reservists mobilized—with about 29,000 reservists—while the Marine Corps Reserve had the fewest number deployed with about 19,000 reservists. The number of reservists mobilized increased through fiscal year 2003 and has declined since then, while the number of reservists deployed increased through fiscal year 2003 and then remained stable through fiscal year 2005. In addition, the majority of reservists have been deployed once, and of those deployed in support of GWOT, most—about 307,000 reservists, or 81 percent—have spent a year

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[6] GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

or less deployed. Alternatively, more than 65,000 reservists, or 17 percent, have spent more than 1 year but less than 2 years deployed, and about 6,000 reservists, or fewer than 2 percent, have spent more than 2 years deployed. The majority of those deployed were part of the Selected Reserve[7] and almost 98 percent were U.S. citizens. Since GWOT began, about 78 percent of reservists who were deployed were White; about 14 percent were Black or African American; about 2 percent were Asian, Native Hawaiian, or Other Pacific Islander; and about 1 percent were American Indian or Alaskan Native. Almost 90 percent identified themselves as non-Hispanic and 8 percent as Hispanic. Of those deployed, 89 percent were male and 11 percent were female, and 39 percent came from states in the southern[8] United States, 23 percent from the midwest,[9] 18 percent from states in the western[10] United States, and 15 percent came from states in the northeast.[11] There were three variables—volunteer status,[12] location deployed, and deploying unit—required by DOD policy for which DMDC could not provide data either because the data did not exist or because they were not reliable enough for the purposes of this report.

We found the deployment and mobilization data we used to be reliable for providing descriptive information. However, the mobilization data, some

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[7] The Selected Reserve is composed of those units and individuals designated by their respective services and approved by the Chairman of the Joint Chiefs of Staff as so essential to initial wartime missions that they have priority for training, equipment, and personnel over all other reserve elements (10 U.S.C. § 10143).

[8] The Census Bureau includes the following states in its definition of the southern United States: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. The District of Columbia is also included.

[9] The Census Bureau includes the following states in its definition of the midwestern United States: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

[10] The Census Bureau includes the following states in its definition of the western United States: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[11] The Census Bureau includes the following states in its definition of the northeastern United States: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

[12] The legal authority used to involuntarily activate reservists in response to the terrorist attacks of September 11, 2001, limits the number that may be involuntarily activated to 1,000,000 (10 U.S.C. § 12302(c)).

deployment data fields, and DMDC's processes for data analyses need improvement. DMDC and the services have recently taken steps to improve the reliability of mobilization data; however, additional steps are needed to make mobilization data and DMDC's analyses of mobilization and deployment data more reliable, as is required by DOD policy and federal government internal control standards. DMDC and the services have undertaken an effort to "rebaseline" or replace all previous service-provided mobilization data in DMDC's database with new data from the services. To date, the Navy has validated its reserve component data file and the Air Force has certified that it has rebaselined its reserve component data. However, the Army, which has mobilized and deployed the largest number of reservists, has not completed its rebaselining effort and has not provided a time frame for doing so. We recognize that the rebaselining effort is a considerable undertaking replete with numerous challenges and that it is a positive step in improving the reliability of the data. However, even if the rebaselining effort were complete, outstanding issues with certain data definitions across the services would continue to affect the accuracy and completeness of the data. For example, the use of the terms "activated," "mobilized," and "deployed" is not standardized within and among the services. Similarly, there is variability across the services in the completeness of other variables and data fields, such as volunteer status, deployment location, and deploying unit. Along with the rebaselining effort, ensuring that the services address these data issues and provide all required data to DMDC is an important step in improving the reliability of the data. With respect to DMDC's quantitative analyses of its CTS data, DMDC has not documented many of its procedures, including those for verifying the data analyses it provides to its customers. Because the data analyses DMDC provided to us had numerous errors—including overcounting the number of reservists' deployments as well as overcounting the number of days some reservists were deployed—and were thus unreliable, we question the effectiveness of its verification procedures and other supporting internal control procedures for ensuring accurate reporting. Federal internal control standards require that data control activities, such as edit checks, verifications, and reconciliations, be conducted and documented to help provide reasonable assurance that agency objectives are being met. Until DOD addresses continuing data definition issues and DMDC documents the internal control procedures it uses to analyze data and verify its analyses of data, the information provided to decision makers within Congress and DOD may be unreliable. Without reliable data and analyses, decision makers will not be in the best position to make informed decisions that are grounded in accurate and complete information about reserve component force availability and medical surveillance issues.

We are making recommendations to the Secretary of Defense to provide guidance to the services to (1) better define and standardize the use of key terms, like deployment, and (2) provide all required data, such as volunteer status and location deployed, to DMDC as well as address data inconsistencies identified by DMDC. We are also recommending that DMDC document its internal procedures and processes, including the assumptions it uses in its data analyses. The Under Secretary of Defense, Personnel and Readiness provided written comments on a draft of the report. In its comments, DOD generally concurred with our recommendations, except for the recommendation to collaborate with other DOD offices on the reasonableness of the assumptions established and used by DMDC in its data analyses. DOD stated that DMDC is a support organization and that each organization that requests reports provides the assumptions that DMDC uses to develop the reports. However, our audit work showed that DMDC has established and uses some basic assumptions in analyzing data and that DMDC may not always discuss these assumptions with other DOD offices, such as Reserve Affairs. As a result, we continue to emphasize the need for DMDC to document these assumptions and to collaborate with these offices to ensure a common understanding of these assumptions. DOD stated it has taken some action on the other recommendations. DOD also provided technical comments, which we have incorporated in the report, as appropriate. DOD's comments are reprinted in their entirety in appendix III of this report.

Background

In 1975, DOD implemented the Reserve Components Common Personnel Data System (RCCPDS)[13] to collect information on current and past members of the six reserve components—Army National Guard, Air National Guard, Army Reserve, Navy Reserve, Marine Corps Reserve, and Air Force Reserve. This information included data on reservists' personal characteristics, such as name, Social Security number, date of birth, gender, home address, and education, as well as data on their military characteristics, such as service, reserve component, prior service status, and date of initial entry into the reserve forces. According to the director

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[13] RCCPDS is an automated information system and associated database that was established as the official source of statistical tabulation of reserve component strengths and related data for various users, to include DOD and Congress.

of DMDC, the services send daily, weekly, and monthly updated data submissions to DMDC in accordance with applicable guidance.[14]

After the first Gulf War, in a May 15, 1991, memorandum,[15] DOD identified 16 recommendations requiring action by many offices within DOD regarding Desert Storm personnel data issues. For example, the memorandum said that DOD should consistently report on who participated in the operations and cites examples of key terms, such as in theater, that were being interpreted differently by DMDC, the Office of the Secretary of Defense, and the services. In December 1991,[16] DOD reported on how DMDC provided information about operations Desert Shield and Desert Storm. This report cited areas for improvement. For example, the report indicated that DMDC created makeshift procedures to establish and maintain the new data sources and to accommodate varied data requests. The report cited that these procedures sometimes resulted in inconsistent or incomplete data being provided in response to a request. On May 2, 2001, DOD updated guidance to the military services, among others, to maintain a centralized database of active duty personnel.[17] In this guidance, DOD requires the services to report personnel information about all active duty military servicemembers as well as reservists who are ordered to active duty. While this instruction called for the services to report information about servicemembers on active duty in support of a contingency, the requirements for reporting contingency data were not specific.

[14] DOD Instruction 1336.5, *Automated Extract of Active Duty Military Personnel Records*, May 2, 2001, and DOD Instruction 7730.54, which has been updated several times since it was first released in 1975.

[15] DOD Manpower Data Center Memorandum, "Recommendations Based on Desert Storm Personnel Data Base Conference of 23-25 April 1991," May 15, 1991.

[16] "Defense Manpower Data Center Support for Desert Shield/Desert Storm," December 1991.

[17] DOD Instruction 1336.5.

On October 4, 2001, the Under Secretary of Defense, Personnel and Readiness (USD (P&R)),[18] issued a memorandum[19] that required the services to report personnel information to DMDC on all active and reserve component personnel mobilized or deployed in support of GWOT, in accordance with DOD guidance.[20] The purpose of GWOT data was, among other things, to establish eligibility for benefits and entitlements as a result of participation in the named contingencies.[21] The information is critical because it provides a historical database with which to assess the impact of policies and processes, events, and exposures on the health of deployed reserve component servicemembers. DMDC was tasked with providing reporting guidance to the services for these data submissions. DMDC sent this guidance to the services on October 12, 2001.

DMDC is a civilian-led agency with a mission to deliver timely and quality support to its customers, and to ensure that data received from different sources are consistent, accurate, and appropriate when used to respond to inquiries. DMDC reports to the Deputy Under Secretary of Defense for Program Integration, who is in the Office of the USD (P&R) (see fig. 1).

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[18] The Under Secretary of Defense for Personnel and Readiness is the principal staff assistant and advisor to the Secretary of Defense and the Deputy Secretary of Defense, Total Force Management, as relates to readiness, National Guard and Reserve component affairs, health affairs, and personnel requirements and management.

[19] Department of Defense, the Under Secretary of Defense, Personnel and Readiness, memorandum, "Reporting of Personnel Data in Support of the National Emergency by Reason of Certain Terrorist Attacks," October 4, 2001.

[20] DOD Instruction 1336.5.

[21] The data are also used for research, actuarial analyses, interagency, mobilization and contingency reporting, and evaluation of DOD programs and policies.

GAO-06-1068 DOD's Deployment Data

Figure 1: Organizational Hierarchy for DOD's Defense Manpower Data Center
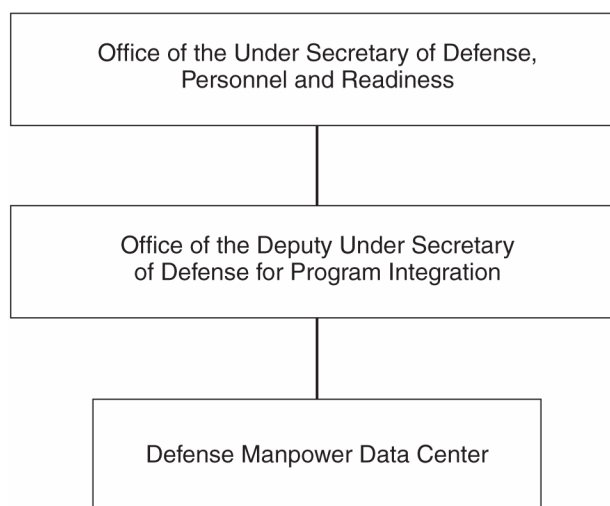
Source: GAO analysis of DOD data.

In February 2002, USD (P&R) reminded the services in another memorandum of its earlier requirement for reporting personnel data to DMDC and informed the services that they had 2 weeks to provide plans to DMDC on how they were going to correct any personnel data reporting problems. On August 6, 2004, DOD updated prior guidance regarding RCCPDS[22] to include an enclosure[23] that set out specific requirements for the services to report personnel information for all reserve component servicemembers supporting a named contingency, unlike previous guidance.[24] The purpose of the new enclosure was to ensure more accurate reporting on a named contingency, such as GWOT missions, as well as to establish eligibility for benefits and entitlements, and to develop a registry of participants for tracking in support of research and evaluation of DOD programs and policies. According to DOD officials, the services, in general, were still reporting data according to previous guidance for a few years after the new guidance was issued.

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[22] DOD Instruction 7730.54, March 15, 1999, was updated with enc. 11 on August 6, 2004.

[23] DOD Instruction 7730.54, enc. 11, August 6, 2004.

[24] DOD Instruction 1336.5, enc. 5, May 2, 2001.

In August 2004, DMDC began operation of its CTS database to address DOD's reporting requirements, including those in the new enclosure (that is, enclosure 11). The CTS database is DOD's repository for collecting activation, mobilization, and deployment data for reservists who have served and continue to serve in support of GWOT. The CTS database contains both an activation file, which contains mobilization data, and a deployment file. Both files are updated monthly by service submissions and cover GWOT from September 11, 2001, to the present. The purpose of the activation file is to account for and provide medical and educational benefits for all reservists called to active duty in support of GWOT contingencies, and it allows DOD to provide data on the number of reservists who have been mobilized in support of GWOT. The purpose of the CTS deployment file is to account for a deployed servicemember's deployment date and location during each deployment event in support of deployment health surveillance and DOD guidance.[25] The database is also used to track and report the number of reservists who have been deployed in support of GWOT since September 11, 2001.

DOD Data Show Demographic and Deployment Characteristics of Hundreds of Thousands of Reservists Deployed in Support of GWOT

Our analysis of DOD data indicates that more than 531,000 reservists have been mobilized in support of GWOT and more than 378,000 reservists, or about 71 percent of the number mobilized, have been deployed in support of GWOT through June 30, 2006 (see fig. 2). The Army National Guard deployed the greatest number of reservists in support of GWOT from September 2001 through June 30, 2006, and, of those, the majority were deployed once. The data also indicate that the vast majority of reservists who deployed in support of GWOT were U.S. citizens, White, and male. Further, the data indicate that most of the reservists spent 1 year or less deployed.

DOD guidance[26] requires the services to report timely, accurate, and complete activation, mobilization,[27] and deployment data. DOD guidance also requires DMDC to collect and maintain mobilization and deployment data from the services about the reservists. DOD is required by policy to report personnel data about reservists, such as service, service

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[25] DOD Instruction 6490.03, *Deployment Health*, August 11, 2006.

[26] DOD Instruction 7730.54 and DOD Instruction 6490.03.

[27] DMDC's activation and mobilization data are contained in the CTS activation file. For the purposes of this report, the term mobilized will refer to reservists who have been activated, mobilized, or both in support of GWOT.

component, reserve component category, race, ethnicity, gender, citizenship status, occupation, unit, and volunteer status regarding a current mobilization.[28] In addition, DOD is required by policy to capture deployment information such as the location a reservist is deployed to and the dates the reservist was deployed to that location.[29]

DOD Data on Selected Demographic and Deployment Variables

Number of Reservists Mobilized and Deployed

Our analysis of DOD data indicates that more than 531,000 reservists have been mobilized in support of GWOT and more than 378,000 reservists, or 71 percent of the number mobilized, have been deployed in support of GWOT through June 30, 2006 (see fig. 2). The number of mobilizations and deployments peaked in fiscal year 2003 with about 206,000 reservists mobilized and about 127,000 reservists deployed (see figs. 3 and 4). Since fiscal year 2003, the total number of mobilizations has declined, while the number of deployments remained stable through fiscal year 2005. The Army National Guard has mobilized and deployed the greatest number of reservists—more than 230,000 mobilized and more than 163,000 deployed. The Navy Reserve had the least number of reservists mobilized—with about 29,000—while the Marine Corps Reserve had the fewest number deployed with about 19,000 reservists (see fig. 2). The percentage of the total reservists mobilized or deployed varies across the fiscal years (see figs. 3 and 4). For example, looking at the percentage of mobilizations by component each year, Navy Reserve, Air Force Reserve, and Air National Guard mobilizations occurred early in GWOT and have generally declined over time. Conversely, the percentage of Army National Guard and Army Reserve mobilizations has generally increased over time. The greatest number of Army National Guard deployments—more than 60,000—occurred in fiscal year 2005 (see table 5 totals in app. II), while also in fiscal year 2005, the Army National Guard represented the largest deploying component, with 52 percent of deployments belonging to it (see fig. 4).

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[28] DOD Instruction 7730.54.

[29] DOD Instruction 6490.03.

Figure 2: Reservists Mobilized and Deployed in Support of the Global War on Terrorism through June 30, 2006
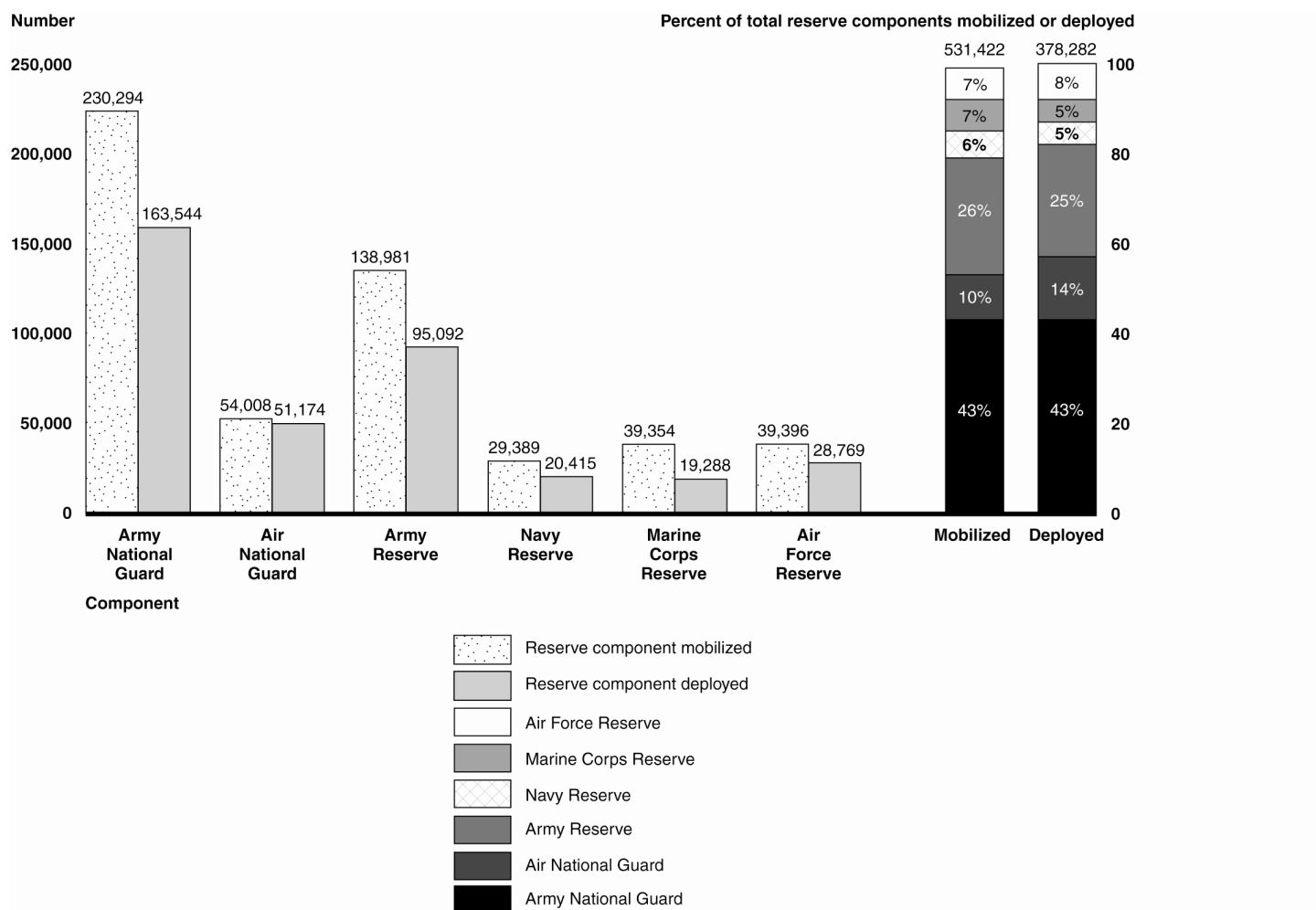
Source: GAO analysis of DOD data.

Note: Army mobilization data may change moderately upon completion of the Army's rebaselining efforts with DMDC. Reservists were only counted once to identify the total number of individuals who have been mobilized and deployed in support of GWOT. Totals may not add to 100 percent because of rounding.

Figure 3: Reservists Mobilized in Support of the Global War on Terrorism by Fiscal Year through June 30, 2006

Percentage   Total number mobilized

Legend:
- Air Force Reserve
- Marine Corps Reserve
- Navy Reserve
- Army Reserve
- Air National Guard
- Army National Guard
- —— Total number mobilized by fiscal year
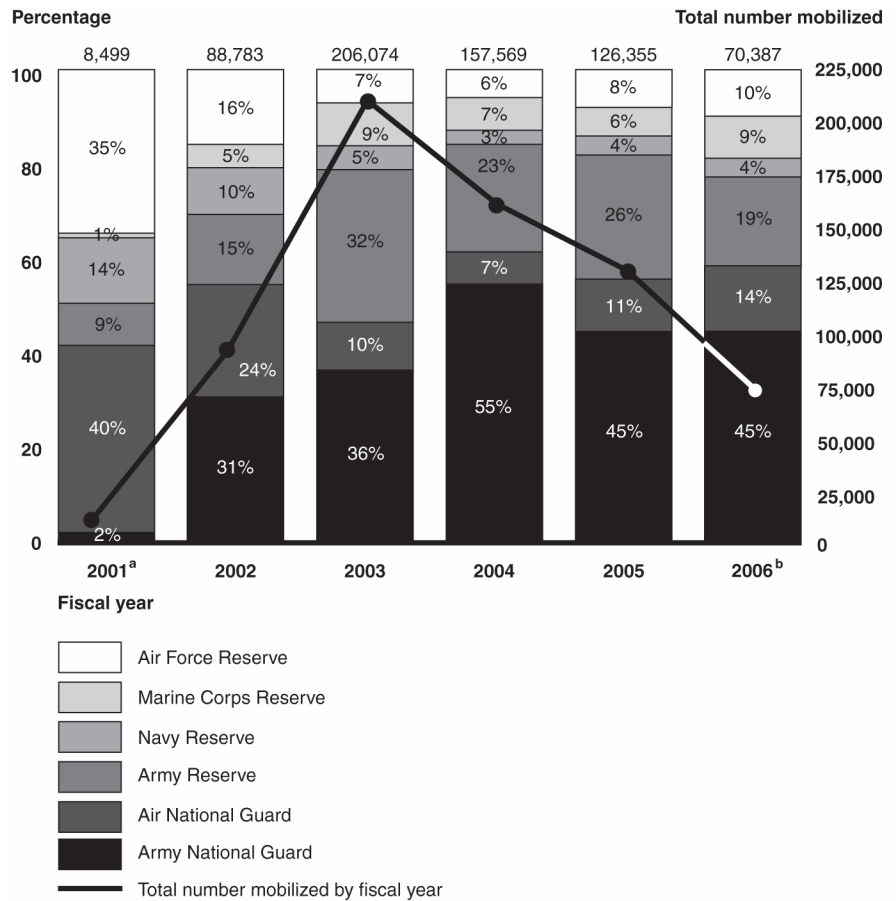
Source: GAO analysis of DOD data.

Notes: Army mobilization data may change moderately upon completion of the Army's rebaselining efforts with DMDC. The sum of the number of reservists mobilized for each fiscal year will be different from the total number of reservists mobilized for all of GWOT because a reservist can be counted more than once (that is, for each fiscal year in which he or she began a mobilization). Totals may not add to 100 percent because of rounding.

[a]Fiscal year 2001 data are for September 11, 2001, through September 30, 2001.

[b]Fiscal year 2006 data are for October 1, 2005, through June 30, 2006.

Figure 4: Reservists Deployed in Support of the Global War on Terrorism by Fiscal Year through June 30, 2006
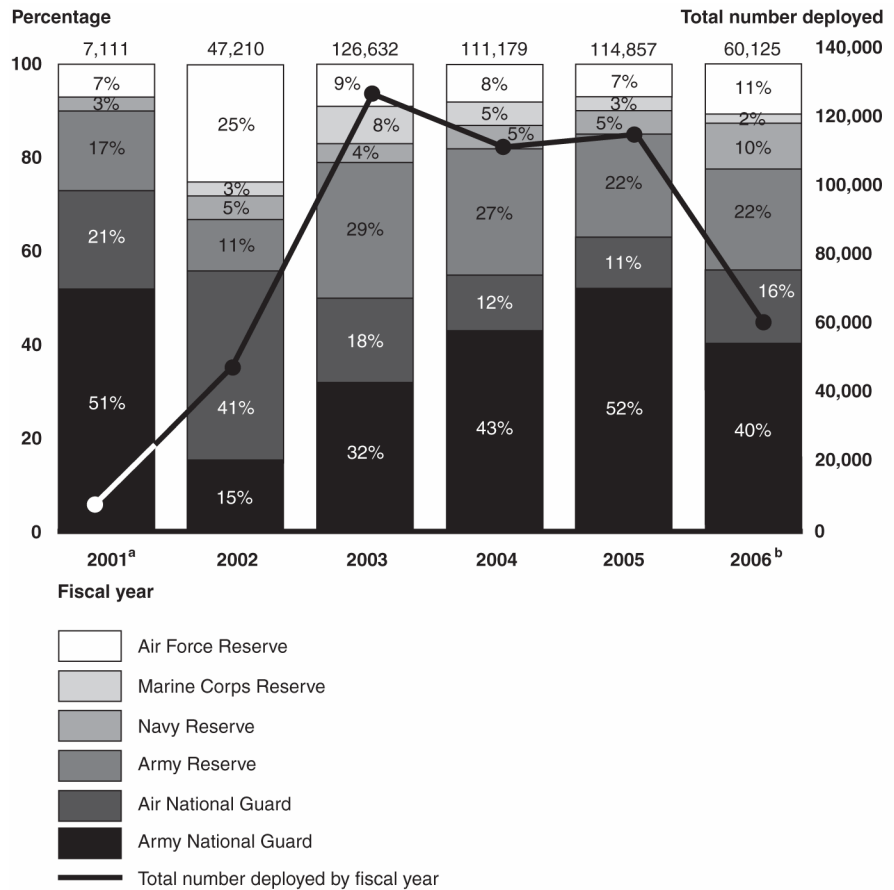
Source: GAO analysis of DOD data.

Notes: The sum of the number of reservists deployed for each fiscal year will be different from the total number of reservists deployed for all of GWOT because a reservist can be counted more than once (that is, for each fiscal year in which he or she began a deployment). Less than 1 percent of reservists deployed in fiscal year 2001 were Marine Corps Reserve servicemembers. Totals may not add to 100 percent because of rounding.

[a]Fiscal year 2001 data are for September 11, 2001, through September 30, 2001.

[b]Fiscal year 2006 data are for October 1, 2005, through June 30, 2006.

Number of Reservists Who Have Deployed One, Two, or Three or More Times

Although reservists usually deployed only once, some experienced multiple deployments (see fig. 5). For example, compared to the other reserve components, the Air National Guard and the Air Force Reserve had nearly half of their reservists deploying two and three or more times, but they tend to have shorter deployment cycles according to the Air

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Expeditionary Force cycle. Under this cycle, reservists deploy for about 120 days in a 20-month cycle. However, servicemembers assigned to stressed specialties deploy for longer periods of time and in greater frequency. At the unit level, some deployment rules have been modified to increase volunteerism or to add stability to key missions. The Army National Guard and the Marine Corps Reserve had the lowest percentage of reservists deploying two and three or more times, but they tend to have longer deployment cycles. In general, DOD policy[30] stipulates that Army units spend 1 year "boots on the ground" in theater.[31] This policy also states that Marine Corps units below the regimental or group level deploy for 7 months while regimental and group headquarters units and above deploy for 12 months. This policy also states that the Chief of Naval Operations' goal is for servicemembers to have a 6-month deployment with 12 months in a nondeployed status.

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[30] Department of Defense, Under Secretary of Defense, Personnel and Readiness, "Action Memorandum: Force Deployment Rules for Operations Iraqi Freedom and Enduring Freedom," July 30, 2004.

[31] "Boots on the ground" is defined in a DOD action memo issued July 30, 2004, as the window of time from when a unit physically arrives in theater until the unit physically departs from the theater. In addition to time spent "boots on the ground," Army servicemembers usually have a period prior to mobilization in which they train at a mobilization station and a time following deployment where they demobilize.

Figure 5: Percentage of Reservists Who Have Deployed One, Two, or Three or More Times in Support of the Global War on Terrorism through June 30, 2006

Percentage

	Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve
Total	163,544	51,174	95,092	20,415	19,288	28,769
Three or more	2%	22%	3%	8%	11%	27%
Two	11%	26%	14%	13%		22%
One	87%	53%	83%	79%	89%	51%

Reserve component

☐ Percentage that have served three or more deployments

▨ Percentage that have served two deployments

▩ Percentage that have served one deployment
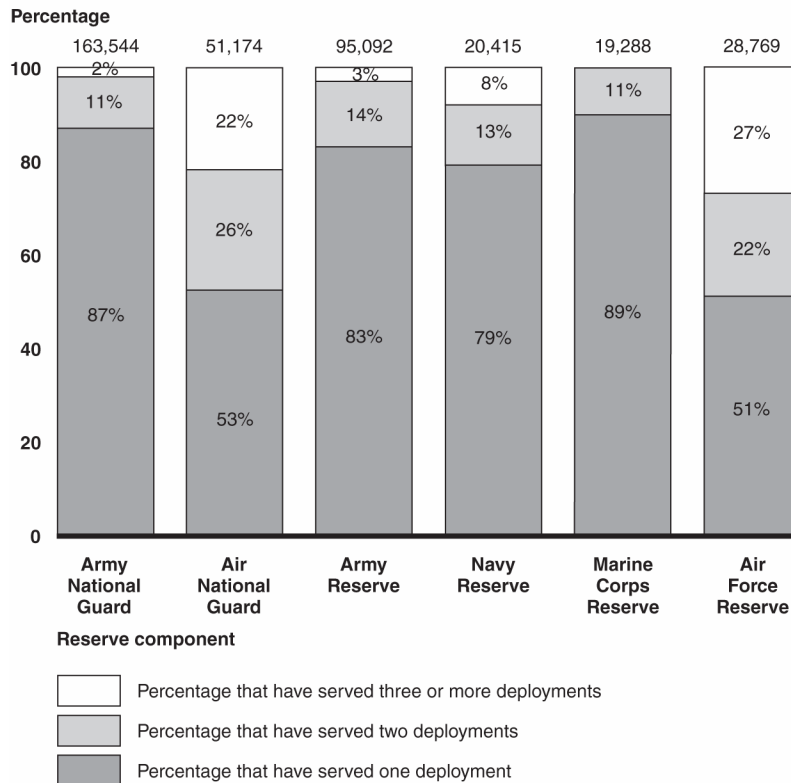
Source: GAO analysis of DOD data.

Notes: For the Marine Corps Reserve, very few reservists—less than 1 percent—served three or more deployments. Totals may not add to 100 percent because of rounding.

Number of Reservists Who Have Spent 1 Year or Less, 1 to 2 Years, or More Than 2 Years Deployed in Support of GWOT

Our analysis of DOD data indicates that across the services, the majority of reservists have been deployed once, and of those deployed in support of GWOT, most—about 307,000 reservists, or 81 percent—have spent a year or less deployed. Alternatively, more than 65,000 reservists, or 17 percent, have spent more than 1 year but less than 2 years deployed, and about 6,000 reservists, or fewer than 2 percent, have spent more than 2 years deployed. The data also indicate that the Marine Corps Reserve had the highest percentage of reservists serving more than 2 years. In addition, the data also indicate that very few—less than 1 percent—of Air National Guard reservists served more than 2 years (see fig. 6).

Figure 6: Percentage of Reservists Who Have Spent 1 Year or Less, 1 to 2 Years, or More Than 2 Years Deployed in Support of the Global War on Terrorism through June 30, 2006

Percentage

	Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve
Total	163,544	51,174	95,092	20,415	19,288	28,769
More than 2 years	1%	—	2%	1%	10%	2%
1 to 2 years	22%	3%	22%	5%	21%	7%
1 year or less	77%	97%	77%	94%	69%	92%

Legend:
☐ More than 2 years
▨ 1 to 2 years
▧ 1 year or less
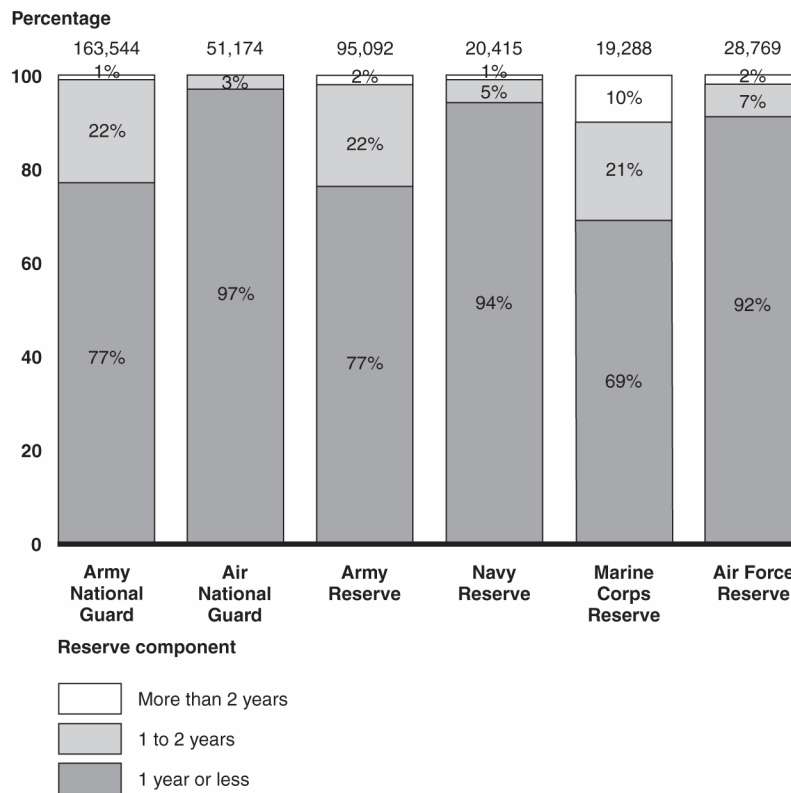
Source: GAO analysis of DOD data.

Notes: For the Air National Guard, very few reservists—less than 1 percent—served more than 2 years. Totals may not add to 100 percent because of rounding.

Reserve Component Categories for Reservists Deployed in Support of GWOT

Our analysis of DOD data indicates that most reservists who have deployed in support of GWOT through June 30, 2006, were members of the Selected Reserve (see fig. 7 and table 5 in app. II). The majority of units and individuals in each reserve component are part of the Selected Reserve. These units and individuals have been designated as so essential to the initial wartime mission that they have priority for training, equipment, and personnel over all categories of reservists. Congress authorizes end strength for Selected Reserve personnel each year. The authorized end strength for the Army National Guard has been about 350,000 for the past several years. For fiscal year 2005, data provided by the services to DMDC indicate that the Army National Guard deployed

more than 60,000 Selected Reserve servicemembers, which represents the highest number of Selected Reserve servicemembers deployed in a single fiscal year by a single reserve component since GWOT began.

Figure 7: Percentage of Reservists Deployed in the Selected Reserve in Support of the Global War on Terrorism through June 30, 2006

Percentage   Number deployed

Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve
182,894	79,633	110,162	25,254	21,398	47,773
100%	100%	93% (6%, 1%)	96% (4%)	95% (5%)	99% (1%)

Reserve component

Standby/Retired Reserve

Individual Ready Reserve/Inactive National Guard

Selected Reserve

●--- Number deployed
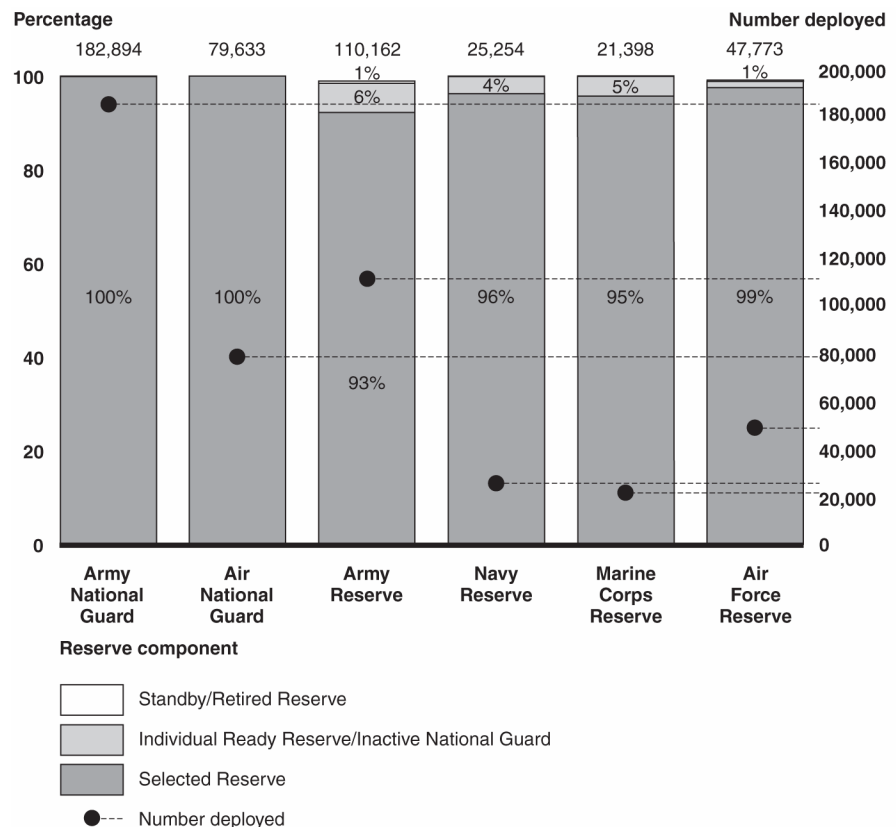
Source: GAO analysis of DOD data.

Although the services are authorized a maximum number of selected reservists, the actual number of reservists will fluctuate when additional reservists are recruited or others leave the reserve component. In addition, reservists such as those in the Individual Ready Reserve, are also available for deployment. In general, reservists are trained to have specific skills and specialties and may not be suited to deploy for a specific mission until additional training is provided. In addition, some reservists may not be available for deployment because they are in training, on medical leave, or awaiting training.

Citizenship Status of Reservists at the Time of Their Most Current Deployment in Support of GWOT

Our analysis of DOD data indicates that almost 98 percent of reservists who have deployed in support of GWOT through June 30, 2006, were U.S. citizens at the time of their most current deployment (see fig. 8). The data indicate that about 1 percent of reservists were non-U.S. citizens or non-nationals at the time of their most current deployment. The citizenship status of more than 1,400 reservists was unknown. DOD data also indicate that 168 reservists' citizenship status changed. Table 1 shows the citizenship status of reservists by reserve component by fiscal year.

Figure 8: Citizenship Status of Reservists at the Time of Their Most Current Deployment in Support of the Global War on Terrorism through June 30, 2006
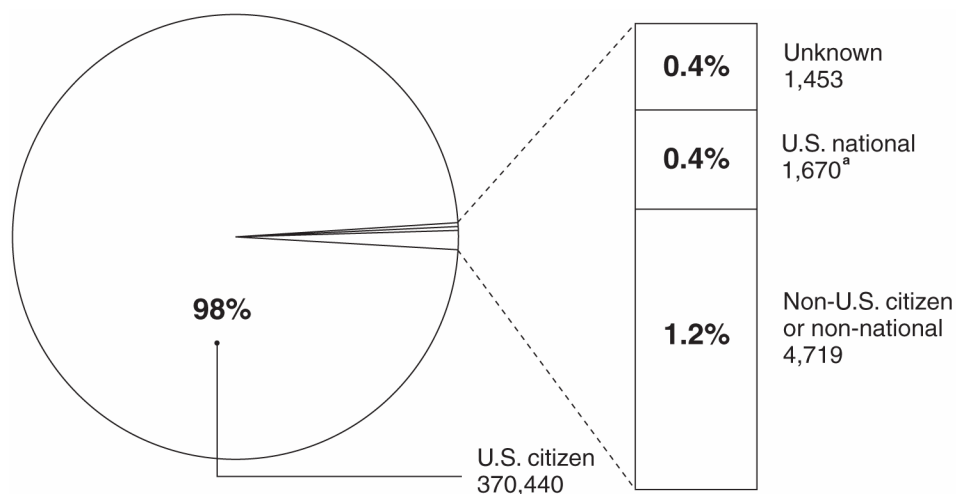
Source: GAO analysis of DOD data.

Note: Totals may not add to 100 percent because of rounding.

[a]U.S. nationals are non-U.S. citizens who owe permanent allegiance to the United States, such as persons born in American Samoa or Swains Island.

Table 1: Citizenship Status of Reservists Deployed in Support of the Global War on Terrorism by Fiscal Year through June 30, 2006

		Fiscal year					
		2001[a]	2002	2003	2004	2005	2006[b]
Army National Guard	U.S. citizen	3,622	6,868	40,083	47,477	59,513	23,542
	U.S. national	0	0	0	0	0	0
	Non-U.S. citizen or non-national	25	54	288	440	708	273
	Unknown	0	0	1	0	0	0
Air National Guard	U.S. citizen	1,469	18,935	21,967	13,086	12,259	9,497
	U.S. national	53	576	633	381	359	376
	Non-U.S. citizen or non-national	0	3	0	9	11	9
	Unknown	0	1	5	3	1	0
Army Reserve	U.S. citizen	1,158	3,749	35,401	28,793	24,316	12,948
	U.S. national	0	0	6	4	4	0
	Non-U.S. citizen or non-national	17	77	766	588	473	201
	Unknown	6	1,379	72	89	84	31
Navy Reserve	U.S. citizen	235	2,464	5,349	5,192	5,168	5,554
	U.S. national	0	6	15	9	14	9
	Non-U.S. citizen or non-national	2	23	84	91	77	131
	Unknown	8	87	207	222	158	149
Marine Corps Reserve	U.S. citizen	8	1,252	9,440	5,697	3,177	895
	U.S. national	0	1	33	14	15	0
	Non-U.S. citizen or non-national	0	98	479	148	107	34
	Unknown	0	0	0	0	0	0
Air Force Reserve	U.S. citizen	508	11,630	11,795	8,927	8,407	6,469
	U.S. national	0	0	0	0	0	0
	Non-U.S. citizen or non-national	0	5	4	6	6	7
	Unknown	0	2	4	3	0	0
Total		**7,111**	**47,210**	**126,632**	**111,179**	**114,857**	**60,125**

Source: GAO analysis of DOD data.

Note: Reservists can be counted more than once if they deployed more than once in different fiscal years.

[a]Fiscal year 2001 data are for September 11, 2001, through September 30, 2001.

[b]Fiscal year 2006 data are for October 1, 2005, through June 30, 2006.

Race and Ethnicity for Reservists Deployed in Support of GWOT

Our analysis of DOD data indicates that about 78 percent of those deployed for GWOT were White; about 14 percent were Black or African American; about 2 percent were Asian, Native Hawaiian, or Other Pacific

Islander; and about 1 percent were American Indian or Alaskan Native (see table 2). Overall, about 5 percent of the deployed reservists declined to indicate their race. The Army National Guard, the Air National Guard, and the Air Force Reserve had the highest percentages of the reservists who identified themselves as White. Further, about 90 percent of those who responded identified themselves as non-Hispanic and 8 percent as Hispanic (see table 3).

Table 2: Race of Reservists Deployed in Support of the Global War on Terrorism through June 30, 2006

	Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve	Total
White	131,686	44,759	66,609	13,905	14,096	23,432	**294,487**
Black or African American	21,285	3,384	19,541	2,611	1,543	3,191	**51,555**
Asian/Native Hawaiian or other Pacific Islander	2,794	592	3,318	492	292	307	**7,795**
American Indian/Alaska Native	1,193	471	497	138	130	122	**2,551**
More than one race	0	132	0	1,981	64	85	**2,262**
Declined to respond	6,586	1,836	5,127	1,288	3,163	1,632	**19,632**
Total	**163,544**	**51,174**	**95,092**	**20,415**	**19,288**	**28,769**	**378,282**

Source: GAO analysis of DOD data.

Note: Although the1997 governmentwide requirements for the collection and reporting of information on race and ethnicity were to have been implemented by January 1, 2003, DOD has not yet fully implemented the requirements and its internal monthly reports continue to use some of the former racial and ethnic categories.

Table 3: Ethnicity of Reservists Deployed in Support of the Global War on Terrorism through June 30, 2006

	Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve	Total
Non-Hispanic	152,350	48,497	84,498	15,003	11,531	26,970	**338,849**
Hispanic	11,193	2,579	10,465	1,851	3,054	1,699	**30,841**
Unknown	1	98	129	3,561	4,703	100	**8,592**
Total	**163,544**	**51,174**	**95,092**	**20,415**	**19,288**	**28,769**	**378,282**

Source: GAO analysis of DOD data.

Gender of Reservists Deployed in Support of GWOT

Our analysis of DOD data indicates that about 338,000 reservists, or about 89 percent of the number deployed, were male (see table 4). About 11 percent of those deployed in support of GWOT were female. Of the approximately 163,500 Army National Guard servicemembers who have been deployed through June 30, 2006, more than 92 percent were male. Almost 98 percent of those deployed in support of GWOT through June 30, 2006, for the Marine Corps Reserve were male, representing the highest percentage of males compared with females for all of the reserve components.

Table 4: Gender of Reservists Deployed in Support of the Global War on Terrorism by Reserve Component through June 30, 2006
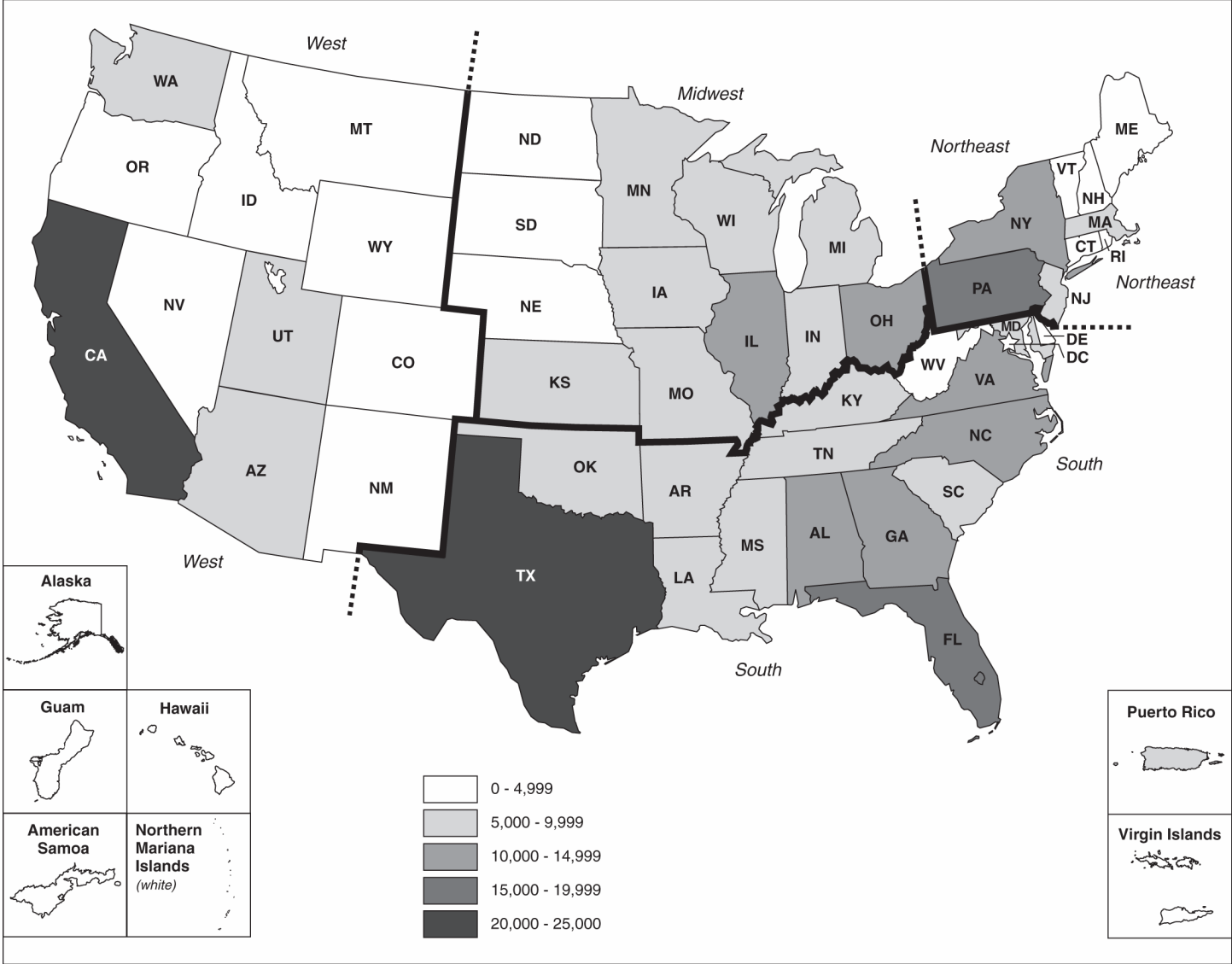
	Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve	Total
Male	150,633	45,674	79,799	17,897	18,806	25,044	**337,853**
Female	12,910	5,500	15,276	2,518	482	3,725	**40,411**
Unknown	1	0	17	0	0	0	**18**
Total	**163,544**	**51,174**	**95,092**	**20,415**	**19,288**	**28,769**	**378,282**

Source: GAO analysis of DOD data.

State of Residence of Reservists Deployed in Support of GWOT

Our analysis of DOD data indicates that California, Texas, Pennsylvania, and Florida had the highest numbers of reservists who have deployed in support of GWOT through June 2006 (see table 6 in app. II for the number of reservists deployed by state of residence by reserve component by fiscal year). The 4 states combined had more than 76,000 reservists in residence at the time of their deployments. Eleven states deployed more than 10,000 reservists each, accounting for more than 160,000 reservist deployments. Of those deployed, about 39 percent came from states in the southern United States, about 23 percent from the midwest, about 18 percent from states in the western United States, and about 15 percent came from states in the northeast part of the country.[32] More than 20,000 reservists indicated California or Texas as their state of residence at the time they were deployed (see fig. 9). Nineteen states and 5 territories had fewer than 5,000 reservists in residence at the time of their deployment and 20 states and 1 territory had from 5,000 to 9,999 reservists in residence at the time of their deployment.

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[32] Totals may not add to 100 percent because of rounding and because we did not include the percentage for territories or Armed Forces areas.

Figure 9: Number of Reservists Deployed in Support of the Global War on Terrorism by State through June 30, 2006

Legend:

- 0 - 4,999
- 5,000 - 9,999
- 10,000 - 14,999
- 15,000 - 19,999
- 20,000 - 25,000

Source: GAO analysis of DOD data: Map Resources (maps).

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Occupational Information about Enlisted and Officer Reservists Deployed in Support of GWOT

Our analysis of DOD data indicates that since GWOT began, the occupational areas[33] of enlisted reservists deployed in support of GWOT have stayed somewhat consistent across all services. For example, the Army National Guard, the Air Force Reserve, and the Marine Corps Reserve have deployed reservists mostly in infantry occupational areas including such groups as infantry, air crew, and combat engineering. All six reserve components have deployed electrical and mechanical equipment repairers, such as automotive, aircraft, and armament and munitions. Three of the six reserve components—the Army National Guard, the Army Reserve, and the Marine Corps Reserve—have deployed reservists who are service and supply handlers, such as law enforcement and motor transport.

Since GWOT began, the occupational areas most deployed for reserve component officers have varied, but all reserve components primarily deployed tactical operations officers, to include ground and naval arms, helicopter pilots, and operations staff subgroups. The Army National Guard, the Air National Guard, and the Navy Reserve have deployed engineering and maintenance officers, such as the communications and radar and aviation maintenance occupational subgroups. The Air National Guard, the Army Reserve, and the Air Force Reserve have deployed reservists in the health care officer occupational areas, including physicians and nurses. The Army Reserve and the Marine Corps Reserve have deployed supply and procurement occupational areas that include transportation, general logistics, and supply occupational subgroups. The Air Force Reserve has also deployed intelligence officers in occupational subgroups such as general intelligence and counterintelligence.

Data for the Volunteer Status, Location Deployed, and Unit Deployed Variables Were Either Not Available or Not Reliable

We were unable to analyze the volunteer status variable because the data do not exist for all of the reserve components. Similarly, we were unable to analyze the deployment location and deployment unit variables because we determined, in agreement with DMDC officials, that the data in these fields were not reliable. This issue is discussed further below.

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[33] Occupational areas, groups, and subgroups are defined by DOD's Occupational Database. Examples given represent DOD's areas, occupational groups or subgroups.

DOD and the Services Have Taken Steps to Improve the Reliability of Reserve Component Data, but More Needs to Be Done

While we found selected deployment and mobilization data to be sufficiently reliable for our purposes (that is, providing descriptive data), some of the data were not reliable enough for us to report, even for descriptive purposes. DMDC and the services, as required by DOD policy, have taken steps to improve the reliability of the mobilization data; however, more action is needed to improve the reliability of CTS data and DMDC's analyses of those data. For example, (1) the rebaselining effort resulted in substantial changes being made to the mobilization data, and the Army—which has mobilized and deployed the largest number of reservists for GWOT—has not completed this rebaselining effort, which the Joint Staff tasked DMDC and the services to do in November 2005; (2) we identified data issues that DOD has not addressed that could further improve the reliability of the data, such as standardizing the use of key terms like deployment; and (3) DMDC does not have effective controls for ensuring the accuracy of its data analyses used to produce reports as required by federal government internal control standards. Although DMDC and DOD have undertaken a major data cleaning—or rebaselining—effort to improve the reliability of mobilization data, the effort does not address some fundamental data quality issues. While we recognize that such a large-scale effort, although replete with challenges, is a positive step toward better quality data, if data reporting requirements and definitions are not uniform, and if there are no quality reviews of DMDC's analyses, some data elements and DMDC's analyses of those data may continue to be unreliable. A senior DMDC official stated that it emphasizes getting data to customers in a timely manner rather than documenting the internal control procedures needed to improve the reliability of the data and the data analyses produced. However, with proper internal controls, DMDC could potentially achieve both timeliness and accuracy. Without reliable data and analyses, DOD cannot make sound data-driven decisions about reserve force availability. Moreover, DOD may not be able to link reservists' locations with exposure to medical hazards.

DMDC and the Services Are Updating the Mobilization Data in CTS, but Concerns Remain

We have found the deployment and mobilization data we used to be sufficiently reliable for our purposes (that is, providing descriptive data), and DMDC and the services have recently taken steps to improve the reliability of mobilization data. However, additional steps are needed to make mobilization data more reliable. As previously noted, DOD guidance[34] requires the services to report timely, accurate, and complete

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[34] DOD Instruction 7730.54 and DOD Instruction 6490.03.

activation, mobilization,[35] and deployment data. DMDC officials responsible for overseeing the CTS database stated that a rebaseline of the deployment data was not necessary because the deployment data matched the data in the Defense Finance and Accounting Service's (DFAS) systems[36] by more than 98 percent. Although DMDC and the services rebaselining of the mobilization data in CTS has resulted in improvements, the Army, which has mobilized the greatest number of reservists for GWOT, has not completed its rebaselining effort. A senior-level DMDC official responsible for overseeing the CTS database said that the mobilization data in the CTS database prior to the rebaselining effort were less than 80 percent accurate for the Army, the Navy, and the Air Force, but that the Marine Corps' data were generally considered to be accurate prior to the rebaselining effort. The official also stated that DMDC expects that the mobilization data within the CTS database will be 90 percent accurate because of this rebaselining effort, which was still ongoing through August 2006. While we recognize that this is a considerable undertaking, to date, only the Navy and the Air Force have validated or certified their mobilization data files. Navy officials said that the Navy has validated its personnel records and established a common baseline of data with DMDC. Air Force Reserve officials said that their data within CTS are now 99 to 100 percent accurate. The Chief of the Personnel Data Systems Division for the Air National Guard certified that although file discrepancies are still being reconciled, the data that were processed by DMDC on June 11, 2006, were the most accurate activation[37] data and that data accuracy will improve with each future file sent to DMDC. The DMDC official said that the Marine Corps had only partially completed its rebaselining effort and would not be finished until the Marine Corps provided its August 2006 data file in September 2006. The Army National Guard and Army Reserve are still working to rebaseline their mobilization data, and the Army has not provided a time frame for completing the effort.

However, we still have concerns regarding the reliability of the mobilization data, because the scope of the rebaselining effort changed

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[35] DMDC's activation and mobilization data are contained in the CTS activation file. For the purposes of this report, the term mobilized will refer to reservists who have been activated, mobilized, or both in support of GWOT.

[36] The DFAS systems contain data on special pays and allowances provided to servicemembers including combat zone tax exclusions and imminent danger pay.

[37] For this report, Air Force activation data are the same as mobilization data.

and the data changed substantially as a result of the rebaselining. At the beginning of our review, DMDC and the services referred to the rebaselining effort as a "reconciliation," which, according to a DMDC official and a Reserve Affairs official, would have resulted in all data (current and past) being reviewed and corrected as needed. We acknowledge that some degree of change is expected in any data cleaning effort, especially with large-scale, multisource collection methods such as DMDC's data collection process. However, our experience has shown that cleaning efforts that result in a large degree of change would suggest systematic error. Such error raises concerns about the reliability of both the original data and the "cleaned" data. If both the source data and the cleaned data are populated with the same assumptions and information, any reconciliation of data points should result in relatively small change that correct simply for random error, such as from keypunch or data source errors. However, for some variables, the data changed substantially as a result of DMDC and the services' rebaselining or data cleaning effort. Our analysis shows that data from the period of September 2001 through December 2005 have changed by about 4 percent to as much as 20 percent. For example:

- The number of reservists mobilized for GWOT through December 2005 went from about 478,000 to about 506,000—an increase of more than 27,000 reservists or a change of more than 5 percent.
- The Army Reserve data sustained the greatest change during this time with a more than 19 percent increase in the number of reservists mobilized. The number of mobilized Army National Guard reservists increased more than 7 percent. According to a senior DMDC official, the Army data are expected to continue to change, perhaps substantially enough to require the rebaselining of the data again in the future.
- The number of Air National Guard reservists mobilized decreased by more than 13 percent.
- The Navy Reserve, the Marine Corps Reserve, and the Air Force Reserve data all changed about 5 percent.

DOD officials stated that the rebaselining effort occurred because the Joint Staff tasked DMDC and the services with ensuring that the data the Joint Staff's Manpower and Personnel office was using in CTS were the same data as the services were using to determine reserve force availability. According to a senior-level DMDC official responsible for overseeing CTS, the rebaselining effort's scope changed because all of the services agreed that starting over and replacing all of the data would make more sense than trying to correct transactions already in CTS, because the

services found errors in the CTS files initially used for the reconciliation. Service officials said that some of the data discrepancies developed because of a DMDC quality check procedure that sometimes resulted in DMDC replacing the service-submitted data with data from other sources. DMDC officials said that they did this because the services were unable to report some of the required CTS data. According to DMDC officials, service submissions have become more complete over time, resulting in DMDC now using the quality check procedures only to check the data rather than to populate the CTS database. This DMDC official stated that DMDC expected the data to change substantially based on the issues identified with service data during the initial reconciliation effort and the subsequent rebaselining effort.

Because the rebaselining effort is not complete and the Army—which has mobilized and deployed the largest number of reservists for GWOT—has not finished the rebaselining, we do not know how much the data will continue to change as DMDC and the services work to finish this effort. DOD data on reservists' mobilizations and deployments are important because decision makers at DOD and in Congress need the data to make sound decisions about personnel issues and for planning and budgeting purposes.

DOD Has Not Fully Addressed Data Issues That Could Improve Data Reliability

Prior to the rebaselining effort, some services recognized that there were data issues that needed to be addressed and took steps to do so, as DOD guidance[38] requires the services to report accurate and complete mobilization and deployment data. However, some data issues that would ensure more accurate, complete, and consistent mobilization and deployment data across the services in the future have not been fully addressed by DOD. Some examples of data issues being addressed include the following:

- The Air Force and the Navy were having difficulty tracking mobilizations based on reservists' mobilization orders, which has resulted in both services independently working to develop and implement systems that write reservists' orders.
- The Army Reserve recently began to modify its mobilization systems, which Army officials expect will improve the collection of reservists' mobilization data.

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[38] DOD Instruction 7730.54 and DOD Instruction 6490.03.

- The Air Force identified problems with the way in which the Defense Eligibility Enrollment Reporting System (DEERS) processed end dates for reservists' mobilizations, which resulted in some reservists not receiving appropriate benefits (for example, dental benefits). Air Force officials worked with officials from the Office of the Secretary of Defense and DMDC to identify and address the data processing logic issues.

Despite these positive steps, service process improvements are not all complete, and further, there has been no comprehensive review across DOD to identify data issues that if addressed, could result in more complete, accurate, and consistent mobilization and deployment data across and within the services. Reserve Affairs officials in the office of Reserve Systems Integration said that a more sustainable fix to the processes of collecting data is needed to ensure that data captured in the future are accurate and more efficiently collected. We agree and have identified some issues that may continue to affect data reliability, such as the following:

- The use of terms, such as activated, mobilized, and deployed, has not been standardized across the services. Although the department has defined these terms in the *Department of Defense Dictionary of Military and Associated Terms*, the terms are used differently by the individual services. In the Air Force, "activation" can refer to the time when a reservist either volunteers or is involuntarily mobilized; however, the term "mobilized" refers only to someone who is not a volunteer. Even within a single service, these words can have different meanings. For example, an Army National Guard official who participated in the rebaselining effort said that Army National Guard servicemembers who backfill active duty servicemembers are not considered deployed since they have not left the United States. However, according to this official, some staff in the Army National Guard use "deployed" to include reservists who are mobilized within the United States.
- There is no single data entry process that would minimize the potential for contradictory data about reservists in multiple systems. Currently, data about reservists are entered separately into multiple systems.
- There is no mechanism for DMDC to ensure that the services are addressing the data inconsistencies DMDC identifies during its ongoing, monthly validation process, such as Social Security numbers that are duplicated in two reserve components.
- DOD has taken an ad hoc, episodic approach to identifying data reporting requirements and to addressing data issues. DOD has periodically issued policies regarding its need to collect and report specific data, such as volunteer status and location deployed, about active duty servicemembers and reservists. As a result of changing requirements, many of these

policies have addendums that include these additional data requirements, which are not immediately supported by the services' existing systems that are used to collect the data. Over time, this has led to disjointed policies that overlap and that require the services to modify their existing systems and processes, which can take months to complete.

- There are incomplete data submissions across the services. Specifically, data for volunteer status was not available in CTS for all service components, and the location deployed and deploying unit data were not reliable enough for the purposes of this report. Only three of the six reserve components—the Air National Guard, the Marine Corps Reserve, and the Air Force Reserve—provide information on a reservist's volunteer status, which neither we nor DMDC report because it is not available for all six components. Further, DMDC officials said that they consider CTS location data incomplete although the data are improving with each fiscal year. DMDC officials said that most unit information is based on the unit a reservist is assigned to and may not represent the unit the reservist is currently deployed with in theater. For this reason, we did not consider these data reliable enough to report.

A DMDC official stated that DMDC does not have the authority to direct the services to correct data errors or inconsistencies or to address data issues. DMDC does, however, work with the services and tries to identify and address data challenges. According to some service officials, the department plans to implement a new, integrated payroll and personnel system—Defense Integrated Military Human Resource System (DIMHRS)—and that the services have been diverting resources needed to modify their existing systems and relevant processes to support DIMHRS. However, our past work has shown that DOD has encountered a number of challenges with DIMHRS, which is behind schedule, and the current schedule has it available no sooner than April 2008, when the Army is scheduled to begin implementing the system.

In general, service officials said that they are working to collect data on volunteer status, location deployed, and deploying unit; however, Air Force officials stated that they do collect data on location deployed and deploying unit and that these data are accurate and are being provided to DMDC. Army Reserve officials stated that they currently do not have plans to collect data on volunteer status.

DMDC Does Not Have Effective Controls for Ensuring the Accuracy of Its Data Analyses Used to Produce Reports

DMDC has not documented (1) its procedures for verifying that the data analyses it performs are correct and (2) the procedures for monthly validation of service data or the procedures used to perform analyses of data. Either of these issues could, if documented as part of DMDC's verification process, address some of our concerns about internal controls. DMDC is required by policy[39] to develop and produce reports about mobilization data and respond to requests for information about deployed personnel. DOD policy[40] requires DMDC and the reserve components to ensure the accuracy of files and the resulting reports. Federal government internal control standards[41] require that data control activities, such as edit checks, verifications, and reconciliations, be conducted and documented to help provide reasonable assurance that agency objectives are being met.

DMDC officials said that they have internal verification procedures that require supervisors to review all data analyses used to generate reports, although these procedures are not documented. Specifically, the supervisors are to review (1) the statistical programming code used to generate the data analyses to ensure that the code includes the customer's data analyses parameters (that is, the assumptions used to produce the analyses) and (2) the "totals" generated to ensure that these totals match the control totals that show the number of reservists currently or ever mobilized or deployed in support of GWOT. DMDC officials acknowledge the importance of verifying the accuracy of the data analyses prior to providing the reports to customers, and they stated that they had verified the accuracy of the analyses provided to us. However, we found numerous errors in the initial and subsequent analyses we received of the GWOT data through May 2006, causing us to question whether DMDC verified the data analyses it provided to us and, if it did, whether the current process is adequate. For example, we found that DMDC had done the following:

- Counted reservists with more than one deployment during GWOT also among those who deployed only once during GWOT, which resulted in overcounting the number of reservists' deployments.

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[39] DOD Instruction 7730.54.

[40] DOD Instruction 7730.54.

[41] GAO/AIMD-00-21.3.1.

- Used ethnicity responses to identify race despite having told us that the internal policy was changed in 2006 and that this was no longer an acceptable practice.
- Counted reservists whose ethnicity was "unknown" as "non-Hispanic" although "unknown" does not necessarily mean someone's ethnicity is "non-Hispanic" and there was a category for unknowns.
- Repeatedly categorized data based on a reservist's first deployment (when there was more than one) despite agreeing to modify this analytical assumption so that we could present data by the reservist's most current deployment.
- Reported thousands of reservists as having changed citizenship status during GWOT although, in our analyses, we found that only 168 reservists had changed status.
- Analyzed data by reserve component categories (for example, Selected Reserve and Individual Ready Reserve) rather than by reserve component as we had asked. By analyzing the number of days a reservist was deployed by reserve component category, a reservist could be counted multiple times within one component if he or she changed category. This error affected the way in which the total number of days a reservist was deployed was calculated. For example, if the same reservist served 350 days as an Army National Guard Selected Reserve member and an additional 350 days as an Army National Guard Individual Ready Reserve member, he or she would be counted as two reservists who were each deployed for less than a year. However, our intent was to report that the same individual had been deployed for a total of 700 days. In our analysis, all of a reservist's days deployed were totaled and counted once for each reserve component, regardless of which category he or she belonged to when deployed.
- Miscoded the end date for the analysis of how many days reservists were deployed for GWOT. This resulted in up to an additional 90 days of deployment being counted for reservists who were still deployed at the time the data were submitted to DMDC.

In our discussions with DMDC officials, they readily acknowledged that errors had been made, although they stated that the analyses had undergone supervisory review prior to our receiving them. During these discussions, we also discovered that many of these errors occurred because DMDC had not used all of our data analyses parameters, although these officials had stated that this was one of the verification process steps followed. Although we were able to work with DMDC officials and identify the analytical assumptions they were going to use to complete our analyses, without documented analytical procedures, it is unclear to what degree the analyses DMDC provides to other users of the data also contain

errors since many may not similarly verify the analyses provided to them by DMDC.

In addition, DMDC officials have not documented additional processes that would further support a verification process, such as (1) the ongoing, monthly validation process of service-provided data[42] and (2) the procedures to perform analyses and generate reports, including the assumptions DMDC uses when producing periodic and special reports for customers. In the past, according to the services, the ongoing, monthly validation process DMDC used resulted in two sets of data—one set of service data and one set of DMDC data—that may not have been the same. For example, we were told by the Air Force that, in some cases, service data were replaced with default values because of a business rule that DMDC applied to the data and that this change resulted in errors to the service-provided data. These inconsistent data caused the Joint Staff to request that the services and DMDC reconcile the data. As stated above, there were errors in the analyses performed to generate the reports DMDC provided to us, including DMDC's not using many of the assumptions we agreed to for the analyses. DMDC also made errors that contradicted its own undocumented policy.

A senior DMDC official said DMDC has not documented these procedures because the organization emphasizes getting data and reports to its customers in a timely manner rather than preparing this documentation. This official said that documentation is not a top priority because situations change rapidly, and it would be hard to keep these documents up-to-date. The official also said that the errors made in the analyses provided to us were caused by human error and the need to provide data quickly. Further, the DMDC official said that while there are standard data requests that are generated frequently, GAO's request was an ad hoc request, and the procedures for addressing such requests, in practice, are not as well defined. While we agree that our requests met DMDC's definition of an ad hoc request, we disagree that sufficient time was not allowed for DMDC to prepare the analyses. For the initial request, we worked with DMDC over the course of about 5 business days to define the analytical assumptions that would be used during the analysis. DMDC then took about 8 business days to complete the analysis and provide it to us.

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[42] During the ongoing monthly validation process, DMDC officials said that they apply a series of undocumented business rules to identify and address inconsistencies in the data provided by the services and comparable data reported in DEERS and by DFAS.

DOD data analyses are important because decision makers at DOD and in Congress need the data to make sound decisions about reserve force availability, medical surveillance, and planning and budgeting. In the absence of documented procedures and the necessary controls to ensure that they are implemented, it is difficult for an organization to ensure that it has established a robust process that is being consistently applied and that accurate results are being achieved. Joint Staff and Reserve Affairs officials are emphasizing the need to use one data source for most analyses to further reduce the inconsistencies in data analyses because service-produced analyses and DMDC-produced analyses could differ if both are not using the same set of data and assumptions. Otherwise, it is possible that the data analyses provided to decision makers at DOD or in Congress will be incomplete and inconsistent. If the data analyses are incorrect, users could draw erroneous conclusions based on the data, which could lead to policies that affect reservists in unanticipated ways.

Conclusions

DOD recognizes the need for accurate, complete, and consistent data and data analyses, and it has taken some preliminary, ad hoc steps to improve its data, including undertaking a considerable effort to rebaseline its mobilization data. It has not, however, addressed some of the inconsistencies in data and data analyses departmentwide, such as when terms are used differently from one service to the next. Further, service officials stated that it is anticipated that a lot of these problems will be addressed when DIMHRS is implemented. However, the schedule for DIMHRS continues to slip, so it is unclear when this solution will be available. We recognize that the need for accurate, complete, and consistent data and data analyses about reservist mobilization and deployment is always important, and even more so during higher levels of mobilization and deployment, such as is the case now with GWOT. This is especially true since, in general, there are restrictions on the maximum length of time a reservist can be involuntarily activated. Thus, having accurate and complete data on a reservist's status is critical for determining availability for future deployments. This is especially true of the CTS data since the Manpower and Personnel office in the Joint Staff and the Office of the Assistant Secretary of Defense for Reserve Affairs mostly use the data found in CTS. These data also help DOD and Congress to understand the potential impacts of policy decisions as they relate to reservists who are eligible for TRICARE Reserve Select and educational benefits based on the number of days a reservist is deployed. DOD has not provided guidance to the services to better define and standardize the use of key terms. DOD also has not collected and maintained all essential data nor has it established a process for ensuring that data inconsistencies are

resolved. Further, DOD has not documented key procedures and processes for verifying the data analyses it provides to its customers, thus compromising its ability to ensure the accuracy, completeness, and consistency of these analyses. Until decision makers in DOD and Congress have accurate, complete, and consistent data and analyses, they will not be in the best position to make informed decisions about the myriad of reserve deployment matters.

Recommendations for Executive Action

We recommend that the Secretary of Defense take the following four actions:

- Direct the Under Secretary of Defense, Personnel and Readiness, to provide guidance to the services to better define and standardize the use of key terms, like activation, mobilization, and deployment, to promote the completeness, accuracy, and consistency of the data within CTS.
- Direct the service secretaries to (1) take the steps necessary to provide all required data to DMDC, such as volunteer status and location deployed, and (2) have the services address data inconsistencies identified by DMDC.
- Direct the service secretaries to establish the needed protocols to have the services report data consistent with the guidance above.
- Direct the Under Secretary of Defense, Personnel and Readiness, to require DMDC to document its internal procedures and processes, including the assumptions it uses in data analyses. In doing this, the Under Secretary of Defense, Personnel and Readiness, should collaborate on the reasonableness of the assumptions established and used by DMDC in its data analyses with the Office of the Assistant Secretary of Defense for Reserve Affairs and the Joint Staff.

Agency Comments and Our Evaluation

The Under Secretary of Defense, Personnel and Readiness, provided written comments on a draft of this report and stated that we changed one of our original audit objectives and did not inform the department of this change. We disagree. While the scope of our audit did change after our initial notification letter of June 17, 2005, was sent to DOD, we notified the proper officials of this change in a December 2, 2005, email to the agency-designated liaison within the DOD Inspector General's office. In this email, we specifically said that we would be contacting DMDC and that we would be focusing on data for reserve component activation, mobilization, and deployment for GWOT. In accordance with generally accepted government

auditing standards (GAGAS),[43] GAO analysts are expected, as appropriate, to review an agency's internal controls as they relate to the scope of the performance audit. Specifically, we are required by GAGAS[44] to review the reliability of the data and the data analyses provided to us. To assess the reliability of data and data analyses, we often review an agency's internal controls that are put in place to ensure the accuracy of the data and analyses. As we discuss in our report, we found the data to be sufficiently reliable for our purposes. However, over the course of the work, the analyses of the data DMDC provided to us continued to have errors. This raised concerns about the adequacy of DMDC's internal controls for preparing and verifying these analyses, which DMDC stated were not documented. In accordance with GAGAS, when reporting on the results of their work, auditors are responsible for disclosing all material or significant facts known to them which, if not disclosed, could mislead knowledgeable users or misrepresent the results. Consistent errors in DMDC's analyses led us to include an audit objective on the reliability of the data and the data analyses.

In its written comments, DOD generally concurred with three of our recommendations and did not concur with one of our recommendations. DOD also provided technical comments, which we have incorporated in the report, as appropriate. Regarding our recommendation that DOD provide guidance to the services to better define and standardize the use of key terms, DOD stated that this requirement has already been addressed because these terms are defined. We acknowledged in our draft report that these key terms are defined in the *Department of Defense Dictionary of Military and Associated Terms*. However, as we state in our report, our audit work indicates that the services are not operationalizing the use of the terms in a consistent manner. The intent of our recommendation is to have DOD standardize the use of the key terms across the services.

DOD generally concurred with our recommendation that the services provide all required data to DMDC and address data inconsistencies, and stated that the services have been directed to provide all necessary data and are working to address data inconsistencies. While we agree that the services are working with DMDC to address data inconsistencies with regard to the rebaselining of mobilization data, we also identified other data inconsistencies that DOD has not addressed, such as Social Security

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[43] GAO, *Government Auditing Standards*, GAO-03-673G (Washington, D.C.: June 2003).

[44] GAO-03-673G, sections 7.12 b, 7.31, and 7.59.

numbers that are duplicated in more than one reserve component. We agree with DOD that some requirements cannot be immediately supported by service data systems and modifications to them can take time to complete. However, as our report notes, some service officials stated that resources are being diverted from these efforts to the DIMHRS program, which we reported is behind schedule. We continue to observe the need for the services to provide all necessary data, to address these data inconsistencies, and to establish needed protocols to have the services report data consistent with DOD guidance, especially since the data are used to determine reserve force availability and for medical surveillance.

DOD also generally concurred with our recommendation that DMDC document its internal procedures and processes, including the assumptions it uses in data analyses. In its written comments, DOD stated that DMDC is in the process of developing documentation on its internal procedures and processes and has a draft that addresses the processes used from receipt of the data from the service components to the final quality control of the consolidated file. DOD also stated that DMDC has a draft product regarding many of the data analyses procedures used. During this engagement, we asked if these procedures and processes were documented. As we say in the report, DMDC stated that they were undocumented and that documenting them was not a priority. Although DOD stated that it is in the process of drafting these procedures and processes, we were never provided a draft of these documents. DOD also stated that while DMDC attempts to document the assumptions made in resulting report titles and footnotes, the disclosure of assumptions used in data analyses remain the responsibility of the requester of the data analyses. Although we agree that the requesters of the data bear responsibility to disclose the analytical assumptions used in the data analyses, our audit work indicates that there are basic assumptions that DMDC establishes and uses that, if documented and discussed with those who request data analyses, would allow the users to understand how the information can be used, as well as the limitations of the data analyses. For example, during a discussion with a Reserve Affairs official, who uses the data analyses provided by DMDC to provide information to senior DOD officials, we stated that DMDC defaults to using a servicemember's first deployment rather than the most current deployment when preparing data analyses. This official was unaware that DMDC used this assumption and stated that the expectation was that DMDC was using the most current deployment to generate the analyses. This official planned to discuss this issue with DMDC in the future.

In its written comments, DOD did not concur with what it characterized as our fourth recommendation. Specifically, DOD separated a single recommendation into two recommendations. In the draft report we sent to DOD, the recommendation read: "We recommend that the Secretary of Defense direct the Under Secretary of Defense, Personnel and Readiness, to require DMDC to document its internal procedures and processes, including the assumptions it uses in data analyses. In doing this, the Under Secretary of Defense, Personnel and Readiness, should collaborate on the reasonableness of the assumptions used by DMDC in its data analyses with the Office of the Assistant Secretary of Defense for Reserve Affairs and the Joint Staff." DOD stated that DMDC is a support organization that generates reports for a multitude of organizations and that each organization that requests reports provides the assumptions that DMDC uses to develop the reports. However, our audit work showed that DMDC has established and uses some basic assumptions in analyzing data and that DMDC may not always discuss these assumptions with other DOD offices, such as Reserve Affairs. As a result, we continue to emphasize the need for DMDC to document these assumptions and to collaborate with these offices to ensure a common understanding of these assumptions. Although DOD organizations can request data analyses using multiple assumptions, without written documentation other organizations may not be fully aware of the analytical assumptions used by DMDC and this may lead to miscommunication and, ultimately, the data analyses may not be valid in that it does not report what the user intended. We continue to believe that the assumptions used need to be documented and discussed with other DOD offices as we recommended. Based on DOD's comments, we modified this recommendation to clarify our intent.

We are sending copies of this report to the Secretary of Defense; the Secretaries of the Army, the Navy, and the Air Force; the Commandant of the Marine Corps; the Under Secretary of Defense, Personnel and Readiness; and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff have any questions on this report, please contact me at (202) 512-5559 or stewartd@gao. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page

of this report. GAO staff who made major contributions to this report are
listed in appendix IV.

Derek B. Stewart

Derek B. Stewart
Director, Defense Capabilities and Management

The Honorable John Warner
Chairman
The Honorable Carl Levin
Ranking Minority Member
Committee on Armed Services
United States Senate

The Honorable Lindsey Graham
Chairman
The Honorable Ben Nelson
Ranking Minority Member
Subcommittee on Personnel
Committee on Armed Services
United States Senate

The Honorable Ted Stevens
Chairman
The Honorable Daniel K. Inouye
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Duncan L. Hunter
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on Armed Services
House of Representatives

The Honorable John M. McHugh
Chairman
The Honorable Vic Snyder
Ranking Minority Member
Subcommittee on Military Personnel
Committee on Armed Services
House of Representatives

The Honorable C. W. Bill Young
Chairman
The Honorable John P. Murtha
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Scope and Methodology

Our objectives were to determine (1) what Department of Defense (DOD) data indicate are the number of reservists mobilized and deployed in support of the Global War on Terrorism (GWOT), and the selected demographic and deployment characteristics of those deployed and (2) whether DOD's reserve deployment and mobilization data and analyses are reliable.

We identified, based on congressional interest and our knowledge of DOD issues, selected demographic and deployment variables to review. We then worked with the Defense Manpower Data Center (DMDC) to identify the data fields within DMDC's Contingency Tracking System (CTS) that best provided information about the selected demographic and deployment variables we wanted to analyze. Although we wanted to analyze the locations to which reservists were deployed and the units with which reservists were deployed, DMDC officials said, and we agreed based on our review of the data, that the data were not reliable enough for those purposes. Our selected variables included

- the number of deployed reservists who volunteered for at least one deployment;
- the number of deployed reservists who have served one, two, or three or more deployments;
- the race and ethnicity of the deployed reservists;
- the gender of the deployed reservists;
- the state of residence of the deployed reservists;
- the number of deployed reservists who were Selected Reserve, Individual Ready Reserve, Standby Reserve, or Retired Reserve;
- the number of deployed reservists who were citizens at the time of their deployment;
- the number of days the reservists were deployed; and
- the top occupational areas for reservists deployed in support of GWOT.

To address objective 1, we obtained and analyzed data for September 2001 through June 2006 from DMDC's CTS. CTS consists of two files—the activation file, which tracks activations and mobilizations, and the deployment file, which tracks deployments. Using CTS data from both files, we analyzed the number of National Guard and Reserve servicemembers mobilized and deployed in support of GWOT, as well as selected demographic and deployment variables, using statistical analysis software.

To address objective 2, we performed a data reliability assessment on the data provided by DMDC from CTS' activation and deployment files. We

requested DMDC reports that replicated our analyses and then compared those report results to our analyses, and we reviewed the programming code DMDC used to generate those reports. To assess the reliability of CTS data, we obtained an understanding of the data, the file structure, the sources of the data, and relevant DOD guidance.[1] Specifically, we (1) performed electronic testing of the data files for completeness (that is, missing data), out-of-range values, and dates outside of valid time frames; (2) assessed the relationships among data elements (for example, determining whether deployment dates were overlapping since each record in the deployment file is intended to represent one deployment); (3) reviewed existing information about the data and the systems that produced them; (4) interviewed department officials to identify known problems or limitations in the data, as well as to understand the relationship between the two files and how data are received from the services, cleaned ("rebaselined"), and processed by DMDC; and (5) compared "prerebaselined" mobilization data to "postrebaselined" mobilization data to determine the extent to which the data changed as a result of the cleaning effort.[2] When we found discrepancies (for example, overlapping deployment dates), we worked with DMDC to understand the discrepancies.

In our interviews with DMDC officials, we discussed the purpose and uses of CTS, the service data rebaselining effort and the internal controls for verifying data analyses, monthly validation of data, and performing data analyses. Similarly, we discussed data collection, processing, and reliability issues as well as service-specific data issues and the rebaselining effort with officials from the Office of the Assistant Secretary of Defense for Reserve Affairs and from each of the reserve components, including the U.S. Army National Guard, the U.S. Air National Guard, the U.S. Army Reserve, the U.S. Navy Reserve, the U.S. Marine Corps Reserve, and the U.S. Air Force Reserve. We also discussed the reliability of the services' data, the rebaselining effort, and the results of a previous Joint Staff review of the quality of service data within CTS with officials in the Joint

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[1] DOD Instruction 6490.03, DOD Instruction 1336.5, and DOD Instruction 7730.54.

[2] To assess the extent the data changed, we first received and analyzed data provided by DMDC in a December 2005 file about reservists deployed in support of GWOT. While DOD's rebaselining effort was still being completed, we received updated data from DMDC in a June 2006 file about reservists deployed in support of GWOT through June 2006, which allowed us to compare prerebaselined December 2005 data with postrebaselined December 2005 data. We compared these two data submissions and analyzed the extent to which the data had changed during the rebaselining effort.

Chiefs of Staff Manpower and Personnel office. Finally, we interviewed officials from the Deployment Health Surveillance Directorate and the Army Medical Surveillance Activity about the quality of the deployment data and how they use the data.

In the course of our review, we determined that some data fields were highly unreliable. For example, electronic testing indicated that data on location and reservist unit information were missing in many cases. Based on our conversations with DMDC and our understanding of the data system, we decided not to conduct lower level analyses (for example, analyses of reservists' assigned units) because the results would be less reliable than aggregate level analyses. Although we are reasonably confident in the reliability of most CTS data fields at the aggregate level, because we could not compare source documentation from each of the services to a sample of DMDC data, we could not estimate precise margins of error. Consequently, we used the data for descriptive purposes, and we did not base any recommendations on the results of our analyses. In addition, we presented only higher level, aggregate data from fields that we determined were sufficiently reliable for our reporting purposes. For these purposes, and presented in this way, the CTS data we use are sufficiently reliable with the following caveat: The Army had not completed its rebaselining effort for mobilization data before the completion of our review, and we could not, therefore, assess the reliability of Army mobilization data to the same extent as those of the other services. However, based on our electronic testing, data comparisons, and interviews with officials, we believe that the data are sufficiently reliable to present as descriptive information.

To assess the reliability of DMDC's reports (that is, its own analyses) of CTS data, we compared our independent analyses of National Guard and Reserve servicemembers' mobilization and deployment statistics with results that DMDC provided from its own analyses of the same data. To pinpoint differences in analytical assumptions, we reviewed the statistical code DMDC used to produce its reports and compared it with our programming code. Through an iterative process, we noted errors in DMDC's programs and requested changes and reruns of the data. We worked with DMDC to ensure that discrepancies were not caused by differences in our analytical assumptions. Where there were discrepancies, we reached the following consensus on how to address them:

- Removed the Coast Guard entries from our analyses of the CTS database since, as we state in this report, the Coast Guard Reserve is under the day-to-day control of the Department of Homeland Security rather than DOD.

- Combined a reservist's Social Security number with his or her reserve component to create a unique identifier. DMDC officials said they do this because they are unsure where the source of the error is when they find that a Social Security number corresponds with two reserve components for a deployment during approximately the same time period. DOD's policy,[3] when there is a duplicate Social Security number for more than one reserve component, is to count both transactions. However, the use of duplicate Social Security numbers results in overcounting. Specifically, the June 2006 file had 38 reservists with overlapping mobilizations, 20 reservists with overlapping deployments, and more than 800 deployed reservists who appeared to have legitimately changed components. To compensate for the 58 "errors" where DMDC did not know which mobilization or deployment to count, it double-counted all 58 reservists. Likewise, the 800 deployed reservists who changed reserve components during GWOT were also double-counted.
- Removed reservists from all analyses when their reserve component category is unknown, so that the numeric totals across analyses would be consistent. DMDC officials said that this is an undocumented standard operating procedure.
- Utilized the reservists' information for most recent deployment to provide the most current information possible in cases where a reservist deployed more than once.
- Calculated the length of a reservist's deployment by including both the day the deployment began and the day on which the deployment ended. Thus, the number of days deployed is inclusive of the beginning and end dates.
- Combined the race categories for Asian, Native Hawaiian, and Other Pacific Islander because, prior to 2003, the distinction between these two groups was not captured in the data.

After clarifying and agreeing on the analytical assumptions, we again reviewed DMDC's code and compared its results with our own to determine whether and why there were remaining discrepancies. We also requested written documentation of DMDC's internal control procedures for the CTS data and, when no documentation was available, interviewed knowledgeable officials about existing internal control procedures. Using the framework of standards for internal control for the federal government,[4] we compared the information from those documents and interviews with our numerous, iterative reviews of DMDC's statistical programs used to generate comparative reports to assess the reliability of

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[3] DOD Instruction 7730.54.

[4] GAO/AIMD-00-21.3.1.

DMDC-generated reports from CTS. We determined that the reports DMDC generated for our review were not sufficiently reliable for our reporting purpose. Thus, we completed our own data analyses.

We performed our work from December 2005 through August 2006 in accordance with generally accepted government auditing standards.

Our analysis of DOD data indicates that most reservists who deployed in support of GWOT through June 30, 2006, were part of the Selected Reserve (see table 5). In addition, California, Texas, Pennsylvania, and Florida had the highest numbers of reservists who have deployed in support of GWOT through June 30, 2006 (see table 6).

Table 5: Reserve Component Categories for Reservists Deployed in Support of the Global War on Terrorism by Fiscal Year through June 30, 2006

		2001[a]	2002	2003	2004	2005	2006[b]
Army National Guard	Selected Reserve[c]	3,647	6,920	40,355	47,869	60,172	23,765
	Individual Ready Reserve/Inactive National Guard[d, e]	0	2	17	48	49	50
	Total	**3,647**	**6,922**	**40,372**	**47,917**	**60,221**	**23,815**
Air National Guard	Selected Reserve	1,522	19,515	22,605	13,479	12,630	9,882
	Total	**1,522**	**19,515**	**22,605**	**13,479**	**12,630**	**9,882**
Army Reserve	Selected Reserve	1,172	4,994	35,181	27,915	21,884	11,531
	Individual Ready Reserve/Inactive National Guard	9	189	951	1,427	2,853	1,516
	Standby/Retired Reserve[f, g]	0	22	113	132	140	133
	Total	**1,181**	**5,205**	**36,245**	**29,474**	**24,877**	**13,180**
Navy Reserve	Selected Reserve	217	2,506	5,438	5,348	5,110	5,658
	Individual Ready Reserve/Inactive National Guard	27	73	212	163	305	177
	Standby/Retired Reserve	1	1	5	3	2	8
	Total	**245**	**2,580**	**5,655**	**5,514**	**5,417**	**5,843**
Marine Corps Reserve	Selected Reserve	8	1,169	9,568	5,593	3,052	864
	Individual Ready Reserve/Inactive National Guard	0	182	378	262	242	62
	Standby/Retired Reserve	0	0	6	4	5	3
	Total	**8**	**1,351**	**9,952**	**5,859**	**3,299**	**929**
Air Force Reserve	Selected Reserve	502	11,592	11,591	8,777	8,157	6,421
	Individual Ready Reserve/Inactive National Guard	6	35	139	137	241	41
	Standby/Retired Reserve	0	10	73	22	15	14
	Total	**508**	**11,637**	**11,803**	**8,936**	**8,413**	**6,476**
Total		**7,111**	**47,210**	**126,632**	**111,179**	**114,857**	**60,125**

Source: GAO analysis of DOD data.

Notes: Title 10 U.S.C. 10145(b) provides that the Army National Guard and the Air National Guard are to be in the Ready Reserve. Reservists can be counted more than once if they deployed more than once in different fiscal years.

[a]Fiscal year 2001 data are for September 11, 2001, through September 30, 2001.

[b]Fiscal year 2006 data are for October 1, 2005, through June 30, 2006.

[c]The Selected Reserve, part of the Ready Reserve, is composed of those units and individuals designated by their respective services and approved by the Chairman of the Joint Chiefs of Staff as so essential to initial wartime missions that they have priority for training, equipment, and personnel over all other reserve elements.

[d]The Individual Ready Reserve consists mainly of trained individuals who have previously served in active component units or in the Selected Reserve and who have a remaining military service obligation.

[e]The Inactive National Guard consists of National Guard personnel who are attached to a specific unit but are temporarily unable to participate in regular training. Currently, only the Army National Guard uses this category.

[f]The Standby Reserve consists of personnel who have completed all obligated or required service or have been removed from the Ready Reserve because of civilian employment, temporary hardship, or disability.

[g]The Retired Reserve consists of personnel who have been placed in a retirement status based on the completion of 20 or more qualifying years of active component or reserve component service.

Table 6: State, Territories, and Armed Forces Areas of Residence for Reservists Deployed in Support of the Global War on Terrorism through June 30, 2006

Residence of deployed population[a]	Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve	Total
Alaska	471	979	147	4	27	42	**1,670**
Alabama	5,301	1,380	2,484	387	332	596	**10,480**
Arkansas	3,891	830	1,078	49	139	132	**6,119**
Arizona	2,005	583	1,208	138	430	697	**5,061**
California	6,811	1,882	5,910	3,769	3,321	2,811	**24,504**
Colorado	939	889	1,441	27	223	759	**4,278**
Connecticut	1,753	627	738	141	206	226	**3,691**
District of Columbia	131	27	174	234	9	36	**611**
Delaware	502	386	252	10	39	438	**1,627**
Florida	5,232	683	4,478	1,347	929	2,448	**15,117**
Georgia	5,860	1,543	3,623	407	732	913	**13,078**
Hawaii	2,058	453	856	137	63	202	**3,769**
Iowa	3,963	941	1,431	19	153	33	**6,540**
Idaho	2,004	710	329	11	54	50	**3,158**
Illinois	4,032	1,910	3,272	103	683	454	**10,454**
Indiana	4,328	1,188	1,583	60	331	685	**8,175**
Kansas	2,394	978	1,760	87	100	287	**5,606**
Kentucky	2,803	628	1,347	33	190	90	**5,091**
Louisiana	5,877	416	1,271	112	435	613	**8,724**
Massachusetts	2,965	1,006	1,684	76	357	758	**6,846**

Residence of deployed population[a]	Army National Guard	Air National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air Force Reserve	Total
Maryland	1,839	1,195	2,215	584	432	487	6,752
Maine	1,407	647	417	79	26	22	2,598
Michigan	3,560	1,542	1,824	72	681	403	8,082
Minnesota	4,699	1,209	2,064	46	126	592	8,736
Missouri	4,199	1,032	2,605	110	262	580	8,788
Mississippi	5,647	1,308	1,263	219	126	190	8,753
Montana	1,302	582	472	5	35	25	2,421
North Carolina	6,287	935	2,909	284	697	755	11,867
North Dakota	1,627	167	173	2	4	28	2,001
Nebraska	2,007	687	1,262	16	73	58	4,103
New Hampshire	1,121	417	553	30	54	71	2,246
New Jersey	2,234	1,332	1,506	215	479	839	6,605
New Mexico	978	482	531	52	79	122	2,244
Nevada	612	541	335	73	153	137	1,851
New York	4,571	2,566	4,833	179	1,406	898	14,453
Ohio	4,047	2,552	4,452	125	613	1,402	13,191
Oklahoma	2,951	1,406	1,151	51	135	597	6,291
Oregon	3,112	301	419	49	223	302	4,406
Pennsylvania	6,053	2,368	5,415	269	828	1,322	16,255
Rhode Island	1,092	474	253	109	61	14	2,003
South Carolina	3,760	817	1,767	268	179	996	7,787
South Dakota	1,916	571	246	1	2	23	2,759
Tennessee	5,519	1,612	1,855	103	368	94	9,551
Texas	6,901	1,503	7,271	1,233	1,475	2,421	20,804
Utah	2,697	811	986	10	228	569	5,301
Virginia	3,238	879	3,756	1,759	905	585	11,122
Vermont	1,294	410	135	1	12	13	1,865
Washington	4,320	839	1,808	225	383	1,274	8,849
Wisconsin	4,177	1,291	2,257	39	282	603	8,649
West Virginia	1,975	879	1,137	6	45	75	4,117
Wyoming	694	407	115	4	9	16	1,245
Territories and Armed Forces areas	4,366	670	3,390	4,701	15	243	13,385
Unknown or Not applicable	22	703	651	2,345	139	743	4,603
Total	**163,544**	**51,174**	**95,092**	**20,415**	**19,288**	**28,769**	**378,282**

Source: GAO analysis of DOD data.

Notes: Territories include the District of Columbia, American Samoa, the Northern Mariana Islands, the Virgin Islands, Guam, and Puerto Rico. Armed Forces areas include Armed Forces of the Americas, Armed Forces Europe, and Armed Forces Pacific. This population represents 13,385, or about 4 percent, of the total number of deployed reservists.

[a]Reservists who had more than one deployment are counted by the state of residence of record for the most current deployment.

UNDER SECRETARY OF DEFENSE
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PERSONNEL AND
READINESS

SEP   8 2006

Mr. Derek B. Stewart
Director
Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Stewart:

     This is the Department of Defense (DoD) response to the GAO draft report, GAO-06-1068, "MILITARY PERSONNEL: DOD and the Services Need to Take Additional Steps to Improve Mobilization Data for the Reserve Components," dated August 25, 2006 (GAO Code 350682). DoD has reviewed the subject draft report and strongly non-concurs with the methodology applied in the conduct of this audit. We also strongly non-concur with Recommendation 4. Our response to the specific recommendations listed in the report is enclosed.

     The original audit announcement letter, dated June 15, 2005, was entitled, "DOD's Reporting of Financial Costs and Personnel Data for Specific Engagements." On February 21, 2006, the Senior Analyst from GAO sent an email to the DoD IG stating "...we have refocused the objectives to look more at the data and less at the implications for the DoD budget. Specifically, we'll be looking more at the extent to which DOD and the services are able to track the number of and length of Reserve Component service member deployments in support to the global war on terrorism." The draft audit, dated August 25, 2006, now states that one purpose of the audit was to determine "...whether DOD's reserve deployment and mobilization data and analyses are reliable." This purpose was never provided to DOD during the audit period and deviates from the original audit engagement purpose and the revised purpose provided February 2006. I believe this to be an unacceptable auditing practice.

Sincerely,

David S. C. Chu

Enclosure:
As stated

**GAO DRAFT REPORT – DATED August 25, 2006
GAO CODE 350682/GAO-06-1068**

**"MILITARY PERSONNEL: DOD and the Services Need to Take Additional Steps to
Improve Mobilization Data for the Reserve Components"**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE RECOMMENDATIONS**

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct the
Under Secretary of Defense (Personnel and Readiness) to provide guidance to the Services to
better define and standardize the use of key terms, like activation, mobilization, and deployment,
to promote the completeness, accuracy, and consistency of the data within the Contingency
Tracking System (CTS).

DOD RESPONSE: Partially concur. In addition, Joint Publication 1-02 defines these terms and
all participants of the Reserve Component Mobilization Policy Forum (OSD, Joint Staff, and all
Services), which met in January 2006, concurred with the published terms and definitions and
these are in use today. For the purposes of reporting and collecting CTS "deployment" data,
DODI 6490.03, dated August 11, 2006, references Joint Publication 1-02 for definitions of these
terms, so this requirement to standardize the term has already been addressed.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense direct the
Service Secretaries to: (1) take the steps necessary to provide all required data to the Defense
Manpower Data Center, such as volunteer status and location deployed; (2) have the Services
address data inconsistencies identified by the Defense Manpower Data Center; and (3) establish
the needed protocols to have the Services report data consistent with the guidance above.

DOD RESPONSE: Partially Concur. All of the Services have been directed to provide DMDC
all required data, to include volunteer status (DODI 7730.54) and location deployed (DODI
6490.03). As you mentioned in your report, the Service Components are working with DMDC to
address data inconsistencies with the "mobilization" data. The Air National Guard and Navy
Reserve have completed their review, and the Army National Guard, Army Reserve, and Marine
Corps Reserve are actively working this issue. As noted in the GAO report, some requirements
cannot be immediately supported by service data systems and modifications to them can take
time to complete.

RECOMMENDATION 3: The GAO recommended that the Secretary of Defense direct the
Under Secretary of Defense (Personnel and Readiness) to require the Defense Manpower Data
Center to document its internal procedures and processes, including the assumptions it uses in
data analyses.

DOD RESPONSE: Partially Concur. DMDC is in the process of developing documentation on
its internal procedures and processes, and has in draft "A Guide to File Management at DMDC"
which addresses the processes used from receipt of the data from the Service Components to the

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final quality control of the consolidated file. With respect to data analyses, many of the procedures already being used by DMDC have been collated in the draft document, "Ensuring a Quality Product." With respect to "the assumptions it uses in data analyses," those assumptions are made not by DMDC, but by its customers. DMDC attempts to document those assumptions made in the resulting report titles and footnotes, but also expects the recipient of the report to recall the guidance under which the original request was made.

RECOMMENDATION 4: The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) to collaborate on the reasonableness of the assumptions used by Defense Manpower Data Center in its data analyses with the Office of the Assistant Secretary of Defense (Reserve Affairs) and the Director, Joint Staff.

DOD RESPONSE: Stongly Non-concur. As stated in our response to Recommendation 3, "the reasonableness of the assumptions used by DMDC" does not put the onus on the correct organization. DMDC is a support organization, and accordingly, the reports it generates are for a multitude of organizations, from the Services, to OSD to the Joint Staff. Each of the organizations makes independent report requests, and often the methodology DMDC is asked to use in the development of these reports are not "DMDC assumptions" but rather parameters of the requestor of the report. Since DMDC is not always in a position to know what the requested report is ultimately going to be used for, it is not appropriate for DMDC, or OUSD (P&R) to make an assessment of the "reasonableness" of the data request.

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Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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Acknowledgments

In addition to the contact named above, Cynthia Jackson, Assistant Director; Crystal Bernard; Tina Kirschbaum; Marie A. Mak; Ricardo Marquez; Julie Matta; Lynn Milan; Rebecca Shea; and Cheryl Weissman made key contributions to this report.